Safety Maintenance and Production

EST. 1901 AMERICA'S PIONEER MAGAZINE IN ITS FIELD

FIFTY CENTS

MAY, 1953

Dust Respirators

GOOD, LIGHTWEIGHT, COMFORTABLE

In the "Good Old Summer Time"

A comfortable worker is a better worker! That's why these lightweight (1½ ounce) respirators are particularly welcome when temperatures soar. They do a real protective job and they're economically priced. Your nearest AO Safety Products Representative can supply you. Model numbers are R9100 and R9100T.

Recommended Uses

R9100 Respirator provides protection against pneumoconiosis-producing and nuisance dusts such as borax, carbon, glass, grain, graphite, cement, limestone, gypsum, coke, charcoal, wood, pollen, flour and aluminum.

R9100T Respirator, similar in appearance and construction to the R9100, protects against any toxic dusts not considerably more toxic than lead—such as arsenate of lead, barium, cadmium, and manganese. It also protects against DDT.

QUICK FACTS

Construction: Simple design includes a smooth, rubber face-contacting mask and a corrugated permanent type felt filter, reinforced by a wire frame.

Filter: Corrugated facepiece forms filter, giving large filter area of approximately 22 square inches.

Breathing comfort: Easy to breathe in — non-reversing, low-resistance exhalation valve does not stick, is out of way and easily replaceable.

Wearing comfort: In addition to light weight, comfort features include soft rubber, smooth edges and self-adjusting double headband.

Unobstructed visibility: Compact, fits close to face. May be worn under helmet or with goggles.

Easily cleaned: A vigorous shake, a slap of the hand or a light blast from an air hose removes dust.

Both respirators are approved by the U. S. Bureau of Mines (R9100 — BM2137; R9100T — BM2144).

Look to AO for a complete line of safety goggles, protective clothing and respirators for every industrial need.

American Optical

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

(For further details, use Key # E-1 on free Inquiry Card on page 77)

NOW-*cooler than ever*

with ~~breezy~~ mesh lining!

This is the cool style every man wants for Summer comfort — on the job and off. He'll make it a SAFETY shoe if you display this attractive Lehigh style NOW! Last year it was a sellout and we had to disappoint some customers. To be sure of having all the pairs you need, anticipate your Foot Safety Program and place your order at once. We'll ship a few pairs for immediate display — deliver the balance in any quantity on dates you specify.

safti-woven **No. 1625**

Tan elk with heavy, single oiled oak leather sole, half rubber heel with leather base.

A and B — 6 to 12
C, D, E, EE — 5 to 13

LEHIGH
SAFETY SHOE COMPANY
ALLENTOWN, PA.

(For further details, use Key # E-2 on free Inquiry Card on page 77)

Published by Alfred M. Best Company, Inc., Publication Office, Columbia Turnpike, Box 232, Rensselaer, N. Y. Editorial and General Offices, Best Building, 75 Fulton St., New York 38, N. Y. Entered as Second Class Matter at Post Office at Rensselaer, N. Y. Under Act of March 3, 1879. Subscription rates, $4.00 Per Year in the United States; $5.00 in Canada; Foreign, $5.00. Single Copies, 50 cents. Publication Date 1st.

Asbestos Gloves for HOT Jobs

Industrial
No. 200-14

To be sure of the Genuine Demand this Trade Mark

There's a *Big* difference between Asbestos Gloves and you can *tell* the difference when you get Industrial's No. 200-14 asbestos gloves. *The quality stands out* in your hands and *on* your hands. Seamless one piece construction from tip to top. No seams at the wrist or working edges to pull out or burn out just when protection is needed most on a hot job. Made lined or unlined. Standard lining is an 8 ounce knitted cotton material anchored in each finger and thumb. Knitted wool or industrial wool lining on request. *The quality stands out* in the correct design and proportions of the big roomy pattern that allow a cool, comfortable fit. Double sewn throughout. Standard 11, 14 and 23 inch lengths. Other lengths and many special types of asbestos gloves and mittens are available both plain and leather reinforced. The quality of all these items stands out because they are all made of sturdy, close woven 2½ pound per square yard Underwriters grade Asbestos cloth.

Be safe—use Industrial's Safety Apparel backed by more than 40 years of experience and know-how that means dependable low cost protection for rough, tough service.

We are designers and manufacturers of a complete line of Industrial Safety Apparel. Write for catalog and tell us your requirements.

INDUSTRIAL
GLOVES COMPANY
A CORPORATION
Main Factory: 1750 Garfield St., DANVILLE, ILLINOIS
(In Canada: SAFETY SUPPLY CO., Toronto)
(For further details, use Key # E-3 on page 77)

THE Future SHOWS

Atlanta, Ga. *May 7–8*

Fifth Occupational Vision Congress. (Georgia Tech.) C. H. Taylor, co-ordinator, Short Courses & Conferences, Engineering Extension Div., Georgia Tech, Atlanta.

Baltimore, Md. *May 7–8*

Governor's Safety-Health Conference & Exhibit (Lord Baltimore Hotel). Joseph Haller, Director of Safety, State Industrial Accident Commission, Equitable Bldg., Baltimore 2, Md.

Roanoke, Va. *May 7–9*

May 7–9. Nineteenth Annual Virginia State-wide Safety Conference (Hotel Roanoke). William M. Myers, managing director, Richmond Safety Council, 49 Allison Bldg., Richmond 19, Va.

Syracuse, N. Y. *May 11–13*

May 11–13. Central New York Safety Conference and Exposition (Hotels Syracuse and Onondaga). Walter L. Fox, Safety Division, Syracuse Chamber of Commerce, Syracuse, N. Y.

Allentown, Pa. *May 13*

Twenty-sixth annual Eastern Pennsylvania Safety Conference. Harry C. Woods, manager Lehigh Valley Safety Council, 602 East 3rd St., Bethlehem, Pa.

Winston-Salem, N. C. *May 13–15*

May 13–15. Twenty-third Annual North Carolina Industrial Safety Conference (Robert E. Lee Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh, N. C.

Philadelphia, Pa. *May 18–22*

May 18–22. Fifth National Materials Handling Exposition (Convention Hall). Clapp and Poliak, Inc., exposition managers, 341 Madison Ave., New York 17, N. Y.

Duluth, Minn. *May 21–22*

Twenty-ninth Annual Conference, Lake Superior Mines Safety Council (Hotel Duluth). John A. Johnson, chief Accident Prev. & Health Div., Region 5, U. S. Bureau of Mines, 18 Federal Bldg., Duluth 2, Minn.

Chicago, Ill. *June 2–4*

June 2–4. Greater Chicago Safety Conference (Conrad Hilton Hotel). Joseph F. Stech, manager, Greater Chicago Safety Council, 10 No. Clark St., Chicago 2, Ill.

Portland, Ore. *June 4–6*

Nineteenth annual Forest Products Safety Conference. (Multnomah Hotel.) Pat Reiten, secretary, Simpson Logging Co., Shelton, Wash.

Cleveland, Ohio *June 22–26*

First convention of National League for Nursing. (Cleveland Public Auditorium.) Mrs. Edith Wensley, Director of Public Relations, National League for Nursing, 2 Park Ave., New York 16, N. Y.

Harrisburg, Pa. *Sept. 16–17*

Pennsylvania Industrial Safety Conference (Hotel Penn Harris). Frank K. Bohl, deputy secretary, Dept. of Labor & Industry, Room 304 So. Office Bldg., Harrisburg, Pa.

York Harbor, Me. *Sept. 17–18*

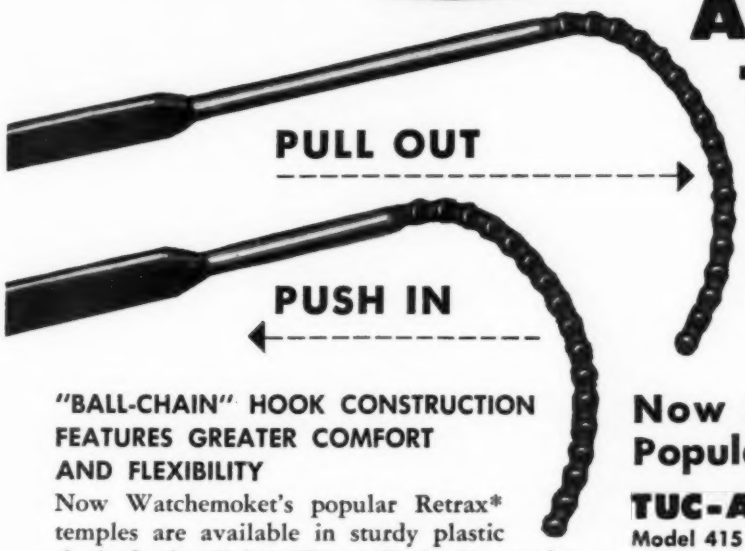
Sept. 17–18. Twenty-Sixth Annual Maine State Safety Conference (Marshall House). A. F. Minchin, secretary, Industrial Safety Division, Department of Labor and Industry, Augusta, Me.

Chicago, Ill. *Oct. 19–23*

Forty-first National Safety Congress and Exposition. (Conrad Hilton Hotel.) R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

GIVE EXTRA EAR COMFORT TO WORKERS!
SOLVE YOUR INVENTORY PROBLEMS!

WITH *New* WATCHEMOKET EYE SAVERS PLASTIC RETRAX* Adjustable Temples



Another WATCHEMOKET *First!*

"BALL-CHAIN" HOOK CONSTRUCTION FEATURES GREATER COMFORT AND FLEXIBILITY

Now Watchemoket's popular Retrax* temples are available in sturdy plastic that's feather-light! These all-plastic temples are the first to successfully rival the flexibility and ear comfort of metal cable-action temples. Plastic "ball-chain" hook design fits comfortably *into* the cartilage contour behind worker's ear.

ADJUSTABLE TO FIT ALL WORKERS— ELIMINATES INVENTORY PROBLEMS

There's no need to stock extra frames of various temple lengths — not when versatile Retrax* temples are available! Can be telescoped in or out for perfect fit by workers themselves! Once adjusted, temples hold firmly in place:

MODEL 440

FOR COVER-ALL PROTECTION with elastic headband

When complete protection against maximum impact is desired, specify Model 440 with close-fitting, soft vinyl frame and shatter-proof methacrylate lens.

MODEL 441 has same vinyl frame with .050" *acetate* lens.

Ask your Eye-Savers supplier to show you these new Watchemoket developments, or write direct!

Now Available On These Popular Eye-Savers Models:

TUC-AWAY

Model 415 has exclusive snap-out: snap-in lens feature. New hinges are designed to provide easy lens angle adjustment for perfect fit. Perfect balance means perfect wearing comfort.

SPLIT-JOINT

Model 80 Features new all-plastic frame with split-joint construction for easy lens replacement. Frame and temples blend beautifully into a perfect integral unit.

METHASPEC

Model 55 Eye shield is made of one-piece .080" thick, optically perfect methacrylate. Provides easy lens angle adjustments.

*TRADEMARK

Quality Eye Protective Equipment ***Made by the Leaders in Plastics***

WATCHEMOKET OPTICAL CO., INC.

225 West Exchange St.
PROVIDENCE 3, R. I.

In Canada: Levitt-Safety Limited, Toronto 10, Montreal 1

(For further details, use Key # E-4 on free Inquiry Card on page 77)

MARTINDALE

PROTECTIVE MASKS

PLACE HEAD-BAND WELL UP AROUND HEAD TO KEEP FROM SLIPPING DOWN
PRESS NOSE TABS IN CLOSE AGAINST FACE TO HOLD PAD AGAINST THE NOSTRILS
PRESS EDGES OF FACE PLATE DOWN TO FIT FACE SNUGLY

Weigh less than ½ ounce. Afford excellent protection against non-toxic dusts, except free silica. Replaceable cotton pads are inexpensive and sanitary.

Martindale Protective Masks ..... **$.30 ea.**
No. 1 Refills (Standard Weight) ..... **.02 ea.**
No. 2 Refills (Heavy-weight) ..... **.02½ ea.**

Masks packed individually. Refills packed 25 to envelope. No. 2 (heavy-weight) Refills contain twice as much filtering cotton as No. 1.

We pay delivery on Cash Orders.

DISCOUNTS

Less than $10.00 list	Net
$10.00 to $24.99 list	10%
$25.00 to $99.99 list	15%
$100.00 and over	20%
Minimum, charge or C.O.D.	$2.00
Minimum, cash with order	$1.00

PLASTIC EYESHIELDS

One-piece molded plastic masks—with high impact strength—meet government specs.

PRICES—NET, FOB CLEVELAND

2 to 5 .....$1.55 ea.
6 to 11..... 1.45 ea.
12 or more .... 1.35 ea.
Minimum order 2

Send for new 64-page Catalog 29 of Maintenance, Production and Safety Equipment.

MARTINDALE ELECTRIC CO.
1397 HIRD AVE. CLEVELAND 7, OHIO

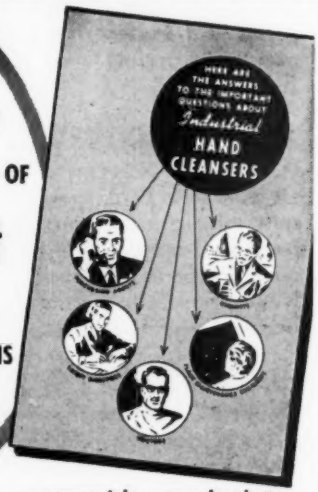
(For further details, use Key # E-5 on free Inquiry Card on page 77)

Clip this Coupon

FOR YOUR FREE COPY OF

Lightfoot

ANSWERS TO THE IMPORTANT QUESTIONS ABOUT SOAP BUYING



. . . no commercials — no sales chatter but a wealth of informative data that should prove invaluable to you and your company throughout the future.

LIGHTFOOT SCHULTZ COMPANY
663 FIFTH AVENUE, NEW YORK 22, N. Y.

Send your free Question and Answer Soap Data

Name_____

Address_____

City_____ **State**_____

(For further details, use Key # E-44 on free Inquiry Card on page 77)

Check List of Aids to Production:

Through Safety—

Safety Program ..... See page 10
Protective Eye Devices Against Chemicals 14
Fork Truck Driving Rules 19
Mine Phone System 23
Driving Safety 31
"Your Safety News" 42
Using Radium Safely 49
Women's Safety Hat 73
Wet-Grip Glove 74
Spray-Respirator 74
Rubber Wiring-Duct 74
Protective Finger Tape 75
Message Repeater 75
Plastic Coated Gloves 76
Anti-Slip Grating 76
Welding-Plate Retainer 76
Safety Spectacles 76
Safety Bulletins 77

Through Maintenance—

Tire Mounting Device 22
Damp Sweeping Device 27
Washroom Cleaning Products 46
New Water Disinfectant 73
Motorized Sweeper 73
Loading-Dock Bumpers 74
Oily-Floor Cleaner 74
Caulking Compound 74
Plastic Pipe Shields 75
Floor Patching Material 75
Portable Vacuum Cleaner 75
Maintenance Bulletins 77

Through Fire Prevention—

Concrete Fire-Proofing 65
Check List of Fire Hazards 67
New-Type Automatic Sprinkler 71
Crash Axe 73
Fire Prevention Bulletins 77

Through Industrial Hygiene—

Washroom Sanitation 46
Industrial Nursing Problems 51
Mobile First-Aid Stations 55
New Water Disinfectant 73
Air-Borne Bacteria Control 75
Exhaust Noise Muffler 76
Industrial Hygiene Bulletins 77, 78

In A Fire Emergency...

ALL HANDS ARE "SKILLED HANDS"

WITH ANSUL DRY CHEMICAL FIRE EXTINGUISHING EQUIPMENT

With Ansul Extinguishers near-expert results are obtained by inexperienced operators. In fact, all Ansul Extinguishers are designed to provide a maximum of extinguishing effectiveness in the hands of inexperienced personnel.

This feature, plus benefits listed below, account for the outstanding preference for Ansul Equipment by fire protection men in all phases of American industry.

1. Water-tight construction throughout.
2. Easy on-the-spot Recharging (No tools needed.)
3. Quick, positive puncture operation.
4. Special cartridge guard protects cartridge . . . rugged construction throughout.
5. Ansul *"PLUS-FIFTY"* Dry Chemical used exclusively.
6. Corrosion resistant construction throughout.
7. Greater fire-stopping power.
8. Field tested by thousands of satisfied customers.

…nd for File No. 804. You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes — from the small Ansul Model 4 to Ansul Piped Systems and Ansul 2000 lb. Stationary Units.

OFFICES AND DISTRIBUTORS IN PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

ANSUL *Chemical Company*

FIRE EQUIPMENT DIVISION • MARINETTE, WISCONSIN

MANUFACTURERS OF DRY CHEMICAL FIRE EXTINGUISHERS, INDUSTRIAL CHEMICALS, SPECIAL CHEMICALS, REFRIGERANTS AND REFRIGERATION PRODUCTS • DISTRIBUTORS OF DU PONT "FREON" REFRIGERANTS.

(For further details, use Key # E-6 on free Inquiry Card on page 77)

Wider range of styling

HY-TEST

offers 2 types of steel box toes

Not one, but two types of steel box toes . . . thus offering your plant men maximum comfort and protection in any style!

ANCHOR FLANGE
WINGUARD 400

H-407

H-302

ANCHOR FLANGE

HY-TEST ANCHOR FLANGE SAFETY SHOES

Insure Workers' Feet In Sure Protection

HY-TEST SAFETY SHOES

THE WORLD'S LARGEST SELLING SAFETY SHOE

DIVISION OF [illegible] SHOE COMPANY

ST. LOUIS 3, MISSOURI

NEW YORK OFFICE [illegible], 221 WEST 34TH ST.

(For further details, see Key 2-S-7 on [illegible] on page 771)

Editor-in-Chief
ALFRED M. BEST

Editor
HARRY De G. ARMAND

Associate Editor
RALPH P. EAMES

Editorial Assistant
DAVID K. SILVER

Managing Editor
CHESTER M. KELLOGG

BUSINESS DEPARTMENT

Executive Vice President
ARTHUR SNYDER

Sales Manager
WALTER H. BROCKHAVEN

Production Manager
A. M. CROWLEY

Publication Office:
Columbia Turnpike, Rensselaer, N. Y.
Editorial and Advertising Offices:
BEST Building, 75 Fulton St., New York 38, N. Y.

NATIONWIDE BRANCHES

WESTERN
FRANK J. MATRE, Sales Mgr.
WM. T. ELLIOTT, Spec. Repr.
10 South La Salle Street
CHICAGO 3, ILL.

EAST CENTRAL
PAYSON H. RYAN, Vice-President
FELIX T. McCARTHY, Jr., Spec. Repr.
ARTHUR A. EBERLE
Ingalls Building, 6 E. 4th St.
CINCINNATI 2, OHIO

NEW ENGLAND
WALTER A. SPANGLER, Manager
W. LAWRENCE HOWE, Spec. Repr.
13 Stanhope Street
BOSTON 16, MASS.

EASTERN
ELLIOTT SEWARD, Spec. Repr.
FRANK WALDRON, Spec. Repr.
JOHN J. GIBBONS
75 Fulton St., New York 38, N. Y.

MIDDLE ATLANTIC
HOWARD J. ADER, Manager
1208 Nelson Street
RICHMOND 26, VA.

SOUTHEASTERN
22 Mariette Street
ATLANTA, GEORGIA

SOUTH CENTRAL
GENE HANSELMANN, Manager
151 Lynda Drive
CHATTANOOGA 5, TENN.

SOUTHWESTERN
ROBERT S. BEGIEN, Manager
928 Kirby Building
DALLAS, TEXAS

PACIFIC COAST
HAROLD F. KANE, Manager
3511 West 6th St.
LOS ANGELES 5, CAL.

Copyright, 1953

Alfred M. Best Company, Inc.
75 Fulton St., New York 38, N. Y.

Annual Subscription $4 (two years $6)
Canadian & foreign $5 (two years $8)
Single issues 50c. Also quantity rates

SAFETY MAINTENANCE & PRODUCTION

FORMERLY "SAFETY ENGINEERING"

The Magazine of Safety

A MONTHLY PUBLICATION DEDICATED TO ACCIDENT PREVENTION, MAINTENANCE, HEALTH CONSERVATION AND FIRE CONTROL FOR EFFICIENT PRODUCTION.
EST. 1901

VOL. 105, NO. 5 MAY, 1953

EDITORIAL
Maintenance of Interest ... 8

ACCIDENT PREVENTION
Forging Safety—Link by Link ... 10
Wear These Against Chemical Hazards (eye protection series) THOMAS W. ROY, JR. 14
Rules of the "Inside Road" ... 19
"Safety Maintenance" Salutes a Safety Idea ... 22
The Telephone Goes Underground ... 23
23rd Safety Convention for Greater New York ... 33
New Safety Products ... 73
Free Safety Bulletins ... 77

MAINTENANCE
To Sweep Up Dust—Damp It Down! (floor maintenance series) E. WILLARD MERRITT 27
Clean Washrooms—On Schedule! (plant sanitation series) J. M. POMRANZ 46
Now is the Time for a Spring Check-Up ... 67
New Maintenance Products ... 73
Free Maintenance Bulletins ... 77

INDUSTRIAL HYGIENE
Industrial Hygiene News ... 45
Clean Washrooms—On Schedule! (plant sanitation series) J. M. POMRANZ 46
Work Safely with Radium HAROLD BAVLEY 49
The Industrial Nurse ... 51
First Aid Fast! (first aid series) ... 55
New Hygiene Products ... 73
Free Hygiene Bulletins ... 77

FIRE PROTECTION
The Fire Front ... 65
Now is the Time for a Spring Check-Up (A Self Inspection Check List) ... 67
New Sprinkler Being Tested ... 71
Free Fire Protection Bulletins ... 77

SPECIAL DEPARTMENTS
The Future Shows ... 2
Check List of Aids to Production ... 4
Transportation Safety ... 31
"Stop for a Rest"—A Safety Illustration ... 35
Safety Achievements ... 40
Inside the Trade ... 58
Materials Handling News ... 61
Learning the Hard Way ... 62
What's New in the Safety-Maintenance Field ... 73
Free Bulletins & Catalogs ... 77
Reader's Inquiry Card ... 77
Index to Advertisers ... 78

PICTURE CREDITS
Our Thanks for the Courtesy
Cover: U. S. Navy Department

AMERICA'S PIONEER MAGAZINE IN ITS FIELD

SAFETY MAINTENANCE & PRODUCTION is indexed regularly by Engineering Index, Inc., New York

It's Safe to Say

EDITORIAL PAGE • ENTIRE CONTENTS COPYRIGHT, 1953, BY ALFRED M. BEST COMPANY, INC. ALL RIGHTS RESERVED

★ MAINTENANCE OF INTEREST

IN SETTING up a safety program, it is not enough to base the approach to accident prevention on the time-tested appeal that safety is economical; that it reduces man-days of lost time; that it may save life, limb and tragic suffering. Every possible new approach needs exploring to bring about that ultimate degree of management-employee enthusiasm without which the program will bog down in a veritable morass of boredom.

A case in point has been advanced by a Kansas State College professor who makes safety a moral issue by pointing out that it is just as immoral for a person to be guilty of unsafe practices as it is to resort to robbery or murder. He develops the theme that "thou shalt not kill" is just as much a law for plant managers, for building designers, for car drivers and industrial employees as it is for bandits.

Perhaps this approach can be considered a gimmick, but if it will spark new interest in the accident prevention program, it can become just as valuable as other proven gimmicks such as badges, pins, plaques and trophies.

The question is posed by countless safety men and other representatives of top management, "How can we breathe life into and sustain interest in accident prevention effort?" It would seem that the many-sided answer to this query would involve, first of all, evidence of management sincerity and leadership; proper allocation of responsibility; maintenance of safe working conditions and building up enthusiasm rather than mere tolerance on the part of working personnel. This last factor can include steps to obtain acceptance of personal responsibility by the working staff.

After setting up a safety committee, representing every segment of the operation, it would seem wise to rotate membership of that committee in order to infuse new blood into the safety movement. Moreover, basic training for new members as well as continuing training for committee veterans will be effective in sustaining interest. This training should emphasize *prevention* of accidents but also first-aid handling in the event of an injury. A most dramatic demonstration at the recent All-Ohio Safety Congress in Columbus last month included a first-aid drill with men portraying victims of many types of accidents ranging from slight injury to a broken neck. The first-aid "teams," headed by a foreman, included workers down to the rawest apprentice. This active participation does much to build up and sustain interest since the man doesn't live who is utterly without a certain amount of "ham."

From its earliest days, the safety movement emphasized the guarding of hazardous machinery but the balance of that emphasis has shifted rightly to the human factor of accidents. It is an eloquent tribute to the job done in mechanical guarding when we are told that 10% of all accidents are caused by mechanical failures and 90% to the human factor. As more equipment is engineered for safety prior to installation, it becomes vital that our attack be centered upon human break-down.

A proper safety program having the greatest potential for good is not so complicated as it may appear at the outset. Basically, accident prevention is a selling job and only order-takers sell from the desk; salesmen sell by personal contacts. It means getting out and selling the man at the bench, the guy with the mop, the apprentice at the machine. The success of such a program will come in direct ratio to the amount of personal selling and that means personal contacts. Regardless of the work we are doing, human nature is largely the same and we all react favorably to the warm, human approach clothed in sincerity. H.A.

WHEN YOU'RE SURE OF THE QUALITY YOU'RE SURE OF THE PROTECTION

Specify metal frame safety eyewear by Bausch & Lomb. There is none better designed, none better made. A few of the basic styles are pictured here. All spectacle types may be fitted with lenses ground to individual workers' prescriptions. Remember, your Bausch & Lomb supplier is thoroughly trained and experienced in solving eye protection problems. Write for catalog showing the complete line: Bausch & Lomb Optical Co., 90517 Smith St., Rochester 2, N. Y.

H-10 For general use in semi-hazardous areas. Non-corrosive white metal frame, drop oval 6.00D curve lenses, rigid double bridge construction, adjustable nose pads, flexible cable-type temples with sweatproof non-flammable insulated covering. Available with Ray-Ban absorptive lenses.

J-11 Same as the H-10 (above) except fitted with non-corrosive wire mesh nose and side screens giving impact protection from every angle. Recommended for use wherever the impact hazard is greatest and most uncertain. Also available with Ray-Ban lenses where glare hazards prevail.

H-30 This is a special Hookover for wear over prescription safety lenses for the purpose of protecting and prolonging the valuable prescription lenses—particularly bifocals. The Hookovers are not supplied with hardened lenses. Available for safety glasses with or without side shields. Also in Ray-Ban.

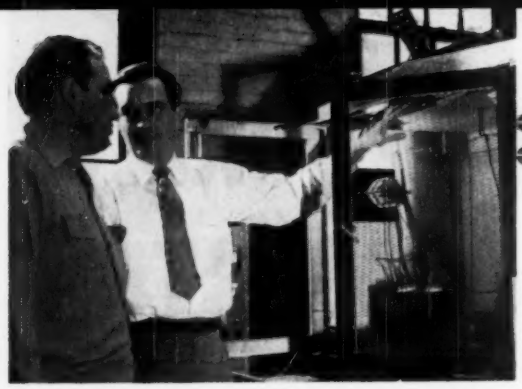
M-50 Here is the Ful-Vue model in all-metal spectacle also available for use with hardened prescription lenses. Widely used indoors and out where adequate protection against frontal impact is needed, but where smart styling is also a desirable factor. Features similar to H-10 except bridge has auxiliary concealed reinforcement.

P-57 This is basically the M-50 frame (above) but with Ray-Ban lenses and green acetate side shields for use generally where protection is required from all-angle impact and from harmful rays emitting from welding arcs and other intense light sources. Ful-Vue temples permit unrestricted wide-angle vision.

1853/1953 INTO A NEW CENTURY OF OPTICAL PROGRESS
BAUSCH & LOMB CENTENNIAL

BAUSCH & LOMB *Safety Eyewear*

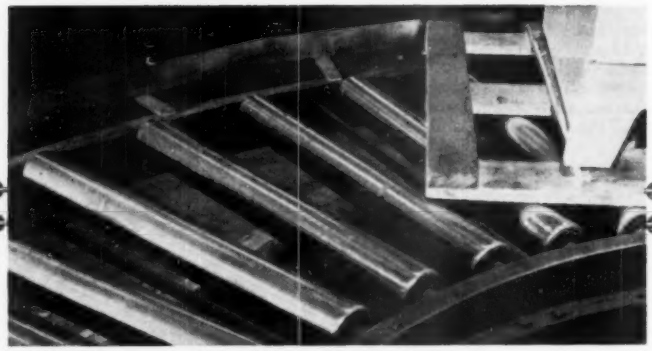
(For further details, use Key # E-8 on free Inquiry Card on page 77)



INSTRUCTION—Foreman explains the operation of interlocked doors on high potential equipment to inspector.

ENFORCEMENT—Foreman tells handler to move cart from dangerous spot.

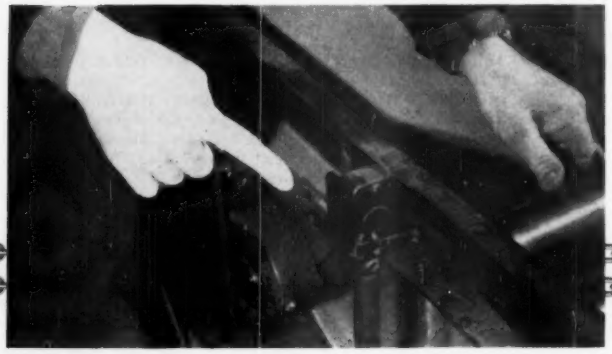
FORGING SAFETY



SAFE HANDLING—Guard rail on edge of curve in conveyor line prevents radio and television cabinets from falling and injuring workers.

SAFE TOOLS—Soldering irons are kept in expanded metal cylinders to eliminate fire and burn hazards. Note the fan to remove all fumes from soldering operation.

AN IMPRESSIVE safety record of 15,040,000 man hours without a lost time accident in the electrical equipment industry, set by the employees of Westinghouse Television-Radio Division, Sunbury, Pa., didn't just happen. It was the product of 11 years of planning and of 11 years' pursuit of a well balanced



CAREFUL MAINTENANCE—Worker points to dust which is then cleaned up. Note switch to stop conveyor if finger is caught.

PERSONAL PROTECTION—Testers and assemblers wear eye protection for testing tubes and assembling television sets.

GOGGLES—The safe way to guard eyes against flying particles is to wear goggles.

LINK BY LINK

SAFETY ENGINEERING—Weighted gate and carton stops are integral parts of conveyor.

accident prevention program . . . a program based on safety education and training, engineering for safety, and employee pride in safe work habits.

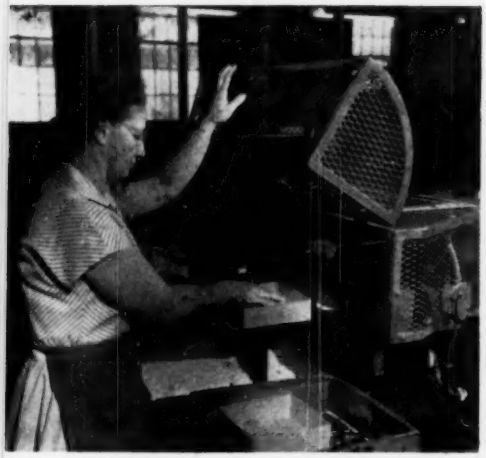
The record really started before the plant went into operation in 1942. When production lines were being laid out; when assembly benches were being located; when machine tools were being placed; and when conveyors were being arranged; safety and the worker's well-being were important factors in the final choice of placement. Manual lifting and handling were reduced to a minimum; guards were put on machine tools; interlocks were provided for test operations; and special dollies were devised for handling parts, subassemblies and complete assemblies.

Once the plant began operation, the plan for safety education and training was put to work. A safety committee was formed that included the manager of manufacturing, two

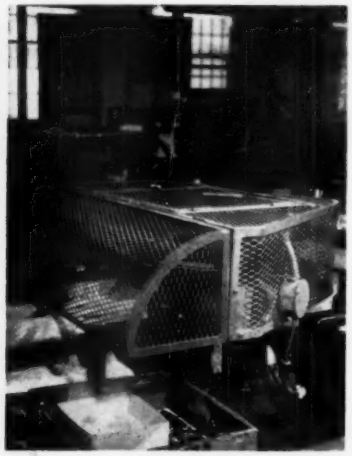
SAFETY UNDERFOOT—Non-skid treads between rollers on conveyor line make needed inspection operations safe.

AND

MACHINE GUARDS



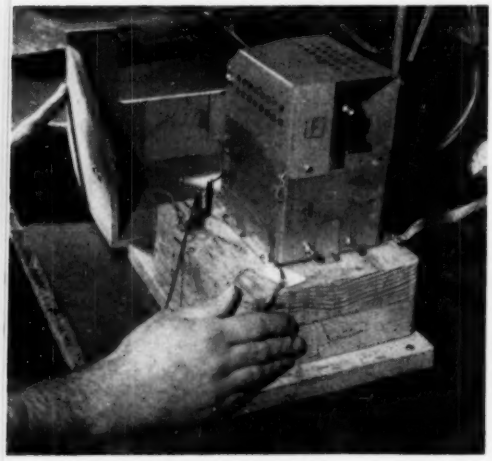
While safety cage is open power is off. Operator can load and unload in safety.



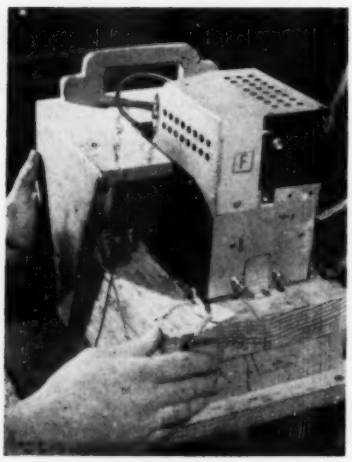
Cage down; power on. If worker puts hands in danger zone machine stops.

Insulating material, washers, bracket, and rivets are loaded into a safe work holder.

Device holds material for riveting firmly. Hands remain free and safe.



Circuit is dead while cover is open. It is safe to replace tested power pack.



Circuit operates with cover closed. Cover protects operator from shock.

general foremen, one industrial relations manager and one industrial relations supervisor and the captain of the plant police. From the beginning the committee has concerned itself primarily with the matter of teaching good work habits. This has been accomplished by appealing to employees' pride in a good plant safety record . . . a record that can only come as a result of good work habits.

Another phase of the safety education program is carried out by trained safety observers. As these observers walk about the plant they are constantly on the lookout for potential accident hazards. When one is spotted, it is reported to the foreman in charge of that section and steps are taken at once to correct the situation.

The printed word is also used. Safety stories published in the company's monthly plant news and safety messages and bulletins posted on boards located throughout the plant, bring safe work practices to the employee's attention again and again. Recurring hazards—horseplay and running in the plant—get plenty of attention from the committee. There is no excuse for this kind of accident hazard and no effort is spared to eliminate it.

The role of the plant physician is vital. He treats all minor injuries promptly and immediately goes to see what caused the injury and what should be done to correct the situation. He doesn't relax until the hazard is removed. His periodic report of minor accidents is routed to every foreman in the plant, besides being posted on the bulletin boards. This stimulates a competitive spirit . . . the will to do better and better . . . the determination to prevent accidents by improving work habits and by keeping a close watch for accident hazards.

Engineering for Safety

Coupled with the need to create a favorable attitude toward safety in the mind of the employee is the

(Continued on page 18)

NEOPRENE Soles and Heels

Second of Five

Armortred NEOPRENE Oil-Resisting Soles and Heels by QUABAUG

are the longest wearing, largest selling soles and heels of their kind.

For all Safety Shoes—Work or *Dress* Type made in 12 and 18 iron

SALES REPRESENTATIVES

G. T. LEAVITT CO. St. Louis, Mo.
O. H. KUHN & SONS Reynoldsburg, Ohio
WINFIELD S. PAGE Morrisville, Pa.
JOHN J. REHM Ridgewood, L. I., N. Y.
A. W. HOGAN & CO., INC. Manila, Philippines
JENNER & SON Ottawa, Canada
JOHN G. FREEMAN CO. Milwaukee, Wis.
GEORGE W. BARNEY Bridgewater, Mass.
CHAS. E. HICKS Waltham, Mass.

MANUFACTURED AND DISTRIBUTED BY **QUABAUG RUBBER COMPANY** NORTH BROOKFIELD, MASSACHUSETTS

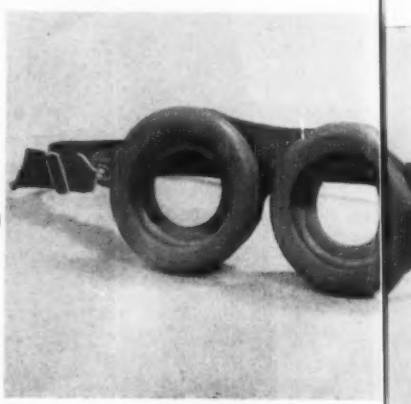
(For further details, use Key # E-13 on free Inquiry Card on page 77)

Ventilated, and splash-proof goggle, with impact resistant lenses, protects against small particles as well as acid and chemical splashes.

FEATURE

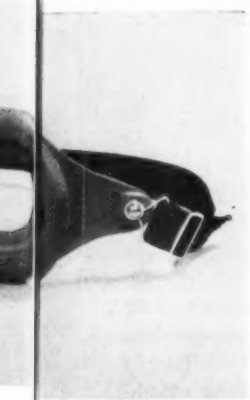
Third of feature series on Eye Protection. Next feature appears in June.

WEAR THESE AGAINST CHEMICALS



Workmen in heavy-laden or gaseous atmospheres use these all-rubber gastight goggles, which have built-in water cups to clear fog and no corrodible parts.

Air-line respirators safeguard workers from chemical fumes, mists, dusts, and splashes. This demand-type supplies air to mask only when the worker inhales. Note knob control.



Gastight all-rubber goggles with vinyl plastic lens afford light weight protection against impact and chemical splash eye hazards.

Acid hood gives workers more complete protection against chemical splashes and spray, covering eyes, head, neck, shoulders, chest and back with vinyl plastic material.

By THOMAS W. ROY, JR.
Mine Safety Appliances Company
Pittsburgh, Pennsylvania

THE demands of modern industry on the vision of today's worker are constantly increasing. The age of mass production has transferred much of the burden from man's back to his eyes.

However, this situation is not without remedy. Protection against industrial irritants and chemicals in the form of liquids, fumes, gases, droplets and particles, presents a serious ever-changing problem; but the basic dangers are known—and methods of eliminating hazards or protecting against them are at hand.

Most industrial irritants and chemicals primarily injure the exterior of the eye. Injuries usually take the form of burns due to alkalies and acids; sensitizations, such as atropine and dionine; and conjunctival and corneal irritants of varying degrees and types. However, in some industrial operations, there is no actual contact between the chemical or irritant and the external eye tissue. The poisonous effects are indirect through the skin and bloodstream and affect the internal eye tissue.

The type of protection used by those who handle acids, caustics, fumes, and other corrosive or poisonous chemicals should be determined, to a great extent, by the nature of the process to be performed. The different operations are so varied that it is not advisable to specify in detail the specific protection to be used. Judgment and experience must determine the correct answer. It is often useful to isolate a particularly hazardous operation to minimize the danger. Exhaust ventilation has proved helpful in reducing toxic hazards.

More often, additional personal protective devices are necessary to safeguard the individual. The degree of protection necessary depends upon the circumstances of the particular situation. Local conditions, the nature and concentration of the chemical involved, and the operating temperatures of the process must all be considered. The skin and respiratory organs are endangered in some instances. In extreme cases, all organs of the worker have to be protected and eye protection forms only a component part of the overall protection.

Different forms of safety equipment offer varying degrees of protection against chemical exposures. Goggles, faceshields, hoods, gas masks, air line respirators, air supply hoods and breathing apparatus are important protectors. Many of them can and should be used to supplement each other.

Goggles

A cup type goggle with indirectly ventilated side shields is recommended for protection during the handling of acids, caustics and other corrosive chemicals. The goggles should have eye cups that conform to the average facial contour. Although it is not always possible to have indirect ventilation, when it is permissible it will reduce lens fogging. Protection against mechanical injury, as well as chemical injury, is often required. The chemical, in time, will reduce the usefulness of the lenses, but they are easily replaced. A plastic or composition eye cup with a heat-treated hardened glass lens protects against the impact of flying solid particles. Also obtainable is a slightly larger model cup-type goggle for wear over prescription glasses.

For protection where fine dust particles and powder create a severe eye hazard, as in cement plants, a different style cup-type goggle with very fine mesh wire-screen side shields is suitable. The screen not only filters out dust and fine particles, but provides a natural draft behind the lenses to reduce fogging.

All-rubber goggles with either vinyl plastic or hardened glass lenses differ from the cup-type by providing a gas-tight seal on the face against gases, fumes and smoke. The frame should be non-irritating, acid-

resisting genuine rubber with broad surfaces for comfort. The advantage of this type is the wider field of vision it offers. The vinyl lens adds to its longevity. It can also be worn over personal prescription glasses. In keeping with the general construction, all metal parts of the goggle should be acid resistant. If an absolute gas-tight fit is not needed the rubber goggle should have ventilation.

An all-rubber cup-type goggle that offers a gas-tight protective fit, has also been designed to eliminate fogging of the lenses. It has a built-in water cup construction so that a slight nod of the worker's head quickly clears the fogging lenses.

Light, comfortable faceshields are good protection against chemical hazards.

Faceshields

Plastic eyeshields and faceshields have become more and more popular in recent years. Their increased use is due chiefly to the added comfort they offer the worker compared with goggles. Although the plastic faceshields do not offer the same protection against impact that goggles do, they have proved satisfactory in protecting the face and eyes against chemical splash. Faceshields offer greater comfort because of lightness, manueverability and wide field of vision. Recently they have become available attached to protective hard hats where danger of falling material or moving equipment is involved.

New plastic materials have some characteristics superior to materials previously used as protective equipment. Their resistance to thermal shock and to most chemical splashes of the more common nature have been found to be very high. Faceshields made from vinyl resins and allyl casting resins offer high resistance to the more common industrial chemicals, although methyl methacrylate plastics are also satisfactory.

However, plastics, as such, offer low resistance to abrasion and may be expected to scratch easily and, therefore, impair vision. Some also tend to crack, chip, deform and warp.

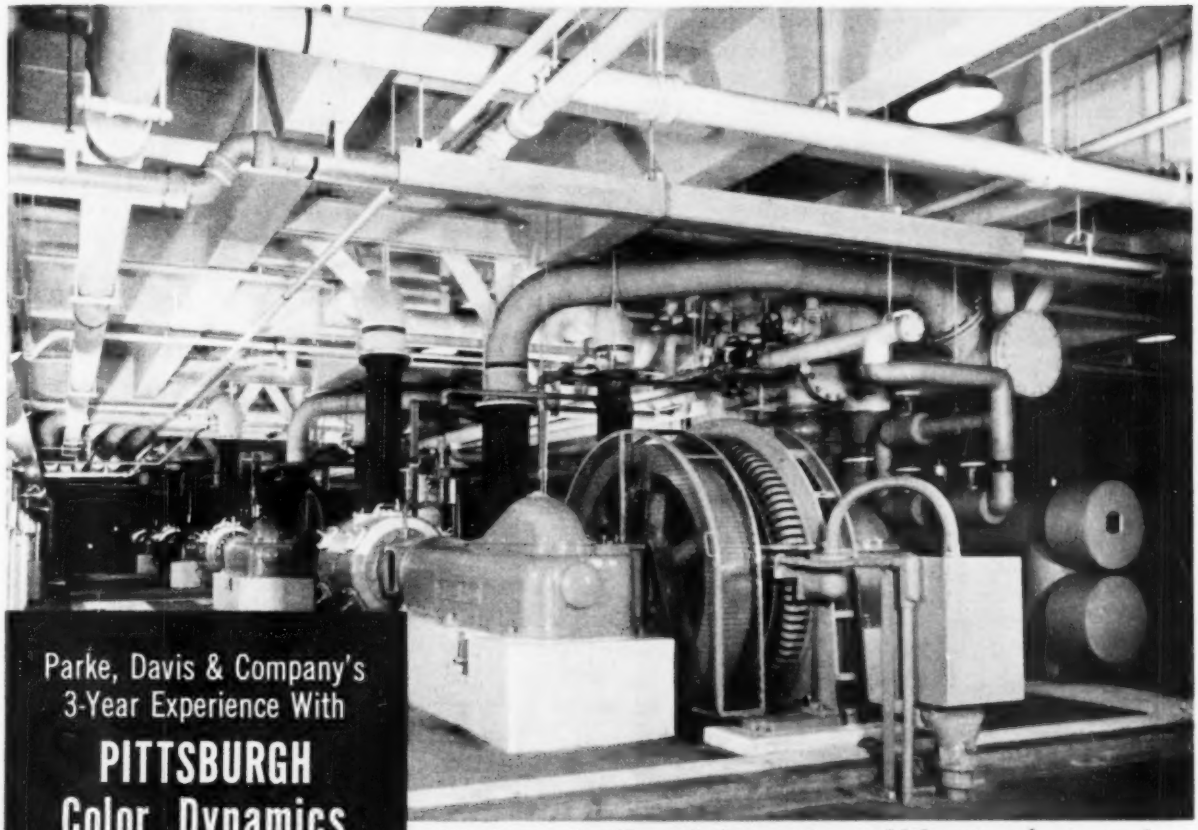
Hoods

Where the actual danger against impact is limited, but complete protection of the eyes, face, neck and head against acid splashes and sprays is desired a hood is indicated. A hood is a semi-rigid device which drapes over the head and shoulders, completely protecting the upper portions of the body. A large clear plastic lens with a wide field of vision is recommended.

Essentially, hoods are constructed of two materials, rubberized cloth and vinyl plastic. Both offer the same type and amount of protection, but the vinyl hood, being lighter, is more favored by workers. Basically, hoods should offer good vision, be light and allow ample natural ventilation. This ventilation should be through baffled air vents which prevent entry of acid splashes. The hood should be heat resistant to allow sterilization. Highly recommended are hoods with a pivotal construction so that the hood will turn with the head, giving full vision at all times. Baffled air vents should be constructed so that the worker is able to hear the instructions or warnings of others. Hoods can be modified by the addition of a compressed air line where additional ventilation is required. When used, the air should enter at the back of the headpiece and be channeled to the front for distribution.

Quality Equipment

Other forms of safety equipment offering protection against chemical exposure are gas masks, air line respirators, and breathing apparatus. These devices are primarily concerned with the protection of the



Parke, Davis & Company's
3-Year Experience With

PITTSBURGH Color Dynamics

Shows Greatly Increased Operating Efficiency!

Modern scientific painting system which *puts color to work* contributes also to improvement of work morale and attendance in Antibiotics Division.

CONVINCING PROOF that Pittsburgh COLOR DYNAMICS contributes to production efficiency and employee morale is offered by the three-year experience of Parke, Davis & Company, Detroit, prominent manufacturer of pharmaceutical products.

● **In the summer of 1948,** Parke, Davis & Company completed a new building specially designed and splendidly equipped to manufacture antibiotics. Chloromycetin, a new drug with global demand because of its efficacy in combating many types of virulent diseases, is the chief product made in this new building.

● **The interior** of this mammoth structure—with its batteries of tanks, its miles of code-marked pipes, its series of laboratories and packaging rooms—was completely "color engineered" according to principles of COLOR DYNAMICS.

● **Just how this modern** painting system has aided production and morale is best expressed in this recent comment of W. H. Mohrhoff, Superintendent of the Antibiotics Division:

● **"When this new** building was completed three years ago, we established production standards which were based upon such physical factors as new and better equipment and improved processes. We also took into consideration the greater amount of natural light the design of the new building gave us. The one intangible we were unable actually to measure was the purposeful use of color.

● **"Our records** show that production efficiency has averaged nearly thirty per cent greater than our estimate based on the tangible factors. At times it has been up sixty per cent. Much of this increase can be attributed to COLOR DYNAMICS.

● **"At the same time,** our attendance has been better than that in similar departments. There can be no better evidence of what our workers think of COLOR DYNAMICS than the many requests for transfer to this building. Even laboratory workers seek to be transferred because they recognize they can do more and better work—with less nervous tension and physical fatigue.

● **"Our experience with** Pittsburgh COLOR DYNAMICS has fully confirmed our opinion that color, properly applied, can be helpful to management and employees alike."

COLOR DYNAMICS Engineering Study for Your Plant—FREE!

● Why not try COLOR DYNAMICS in your plant—on a machine or two, or in one department—and see the difference it makes? For an explanation of what COLOR DYNAMICS is and how it works, send for our free booklet. Better still, let us make a color engineering study of your plant, or any part of it, free and without obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have a trained color expert see you at your convenience. Or send coupon below.

Mail This Coupon For FREE Booklet!

Pittsburgh Plate Glass Co., Paint Div.
Department SM-53, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your Booklet *"Color Dynamics."*

☐ Please have your representative call for a Color Dynamics Survey without obligation on our part.

Name_____

Street_____

City_____ County_____ State_____

Copr. 1953 Pittsburgh Plate Glass Co., Pittsburgh, Pa.

PITTSBURGH PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

respiratory organs but they offer protection to the eyes as well.

Protective equipment should meet certain minimum construction requirements. While the equipment should protect the wearer against toxic chemicals, it is essential that it does not contain toxic materials itself. All parts which contact the skin must be made of materials which are non-irritating. Substitutions of material should be investigated prior to use. All protective equipment should be adequately resistant to moisture, temperature changes and sterilization. It should be designed to offer maximum comfort without sacrificing personal protection. The insulation of all metallic parts is desirable in almost all cases. An important point that should not be overlooked is the physical strength of the lens. In many operations where the primary concern is the protection of the eyes from harmful chemicals, an equally serious hazard from impact of flying particles is present. Therefore, a specially treated hardened lens is always recommended.

Eye First-Aid

Despite the most elaborate precautions accidents will occur. First-aid treatment of eye injuries resulting from irritants and chemicals should not be overlooked. The first step in emergency treatment is immediate irrigation of the eyes. This particular point cannot be overemphasized, because a few minutes delay may mean the difference between the loss or restoration of the worker's eyesight. The action of most acids and caustics on the eyes is very rapid.

Pain is usually incidental to acid, caustic and other chemical burns, and it is essential to dilute the chemical in the eye by water irrigation as quickly and thoroughly as possible. This can be accomplished in many ways. Naturally, an eye irrigation unit is excellent, but if special equipment is not at hand immersing the injured employee's head in a pail of water and having him blink his eyes will be effective. Many companies make extensive use of neutralizing agents or counteracting solutions, but most authorities agree that the policy of water, water, and more water, is the best when untrained personnel are directing the emergency treatment.

As soon as possible after the accident and the emergency treatment of flushing the injured eye with water, the injured should be conducted to an opthalmologist. All pertinent details concerning the accident should be given the opthalmologist, such as whether the chemical was acid, alkali or neutral, and whether it was in solid, liquid or vapor form. The identification of the chemical is very important and can save a great deal of time and pain.

No one really questions the need for an industrial eye protection program. However, instituting this type of program has its problems. Every operation connected with the handling of acids, caustics and other corrosive chemicals should be investigated for potential eye hazards and the necessary type of protective measures taken. Expert engineering can control or eliminate many hazards by the introduction of closed containers and the use of special materials handling methods, but personal protective equipment and programs of education and training of workmen in the handling of chemicals are of paramount importance.

Pictures by courtesy of Mine Safety Appliances Co.

For detailed descriptions of eye protection against chemicals see pages 87–122 of "Best's Safety and Maintenance Directory," 1952–53 edition.

See "What's New" on pages 73–76

Forging Safety

(Continued from page 12)

need for sound engineering for safety. Every job in the plant is engineered for safety. This includes protective clothing for workers as well as protective devices for machines, conveyors, test operations and assembly procedures.

The payoff of all these efforts is reduced human suffering: only 9 disabling accidents in 11 years, during which employees put in more than 25 million man-hours. All this adds up to the very low accident frequency rate of 0.35 and accident severity of 0.02.

Safety Pays Off

While human suffering can never be measured in dollars, the economic benefits of the program indicate that human suffering has been reduced. In workmen's compensation losses alone—a direct measure of human suffering since benefits are paid the lost-time injured—savings of more than 100,000 dollars have been realized when compared with the average for all the company's plants. These savings are even more significant when compared with industry in general, for they reach nearly 250,000 dollars.

Another index of the value of a practical, workable accident prevention program is the cost of this compensation. For the past two years it's been at the rate of $0.00 per $100 of payroll; for the three years preceding that it was 1 cent per $100 of payroll.

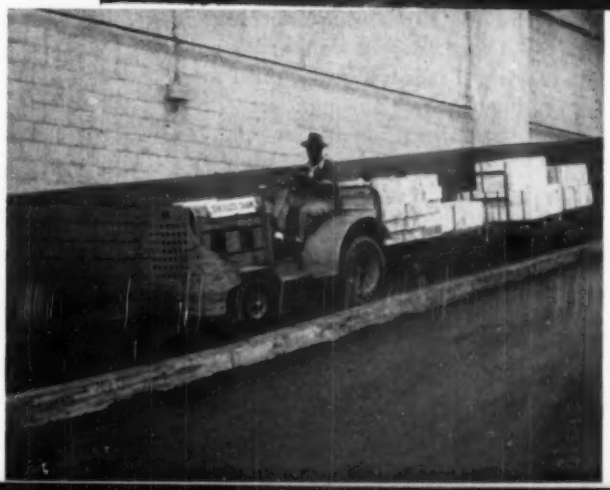
The overriding value and benefit of the teamwork it takes to produce such an accident prevention program is best illustrated by a statistic related to the 15,040,000 man-hours without a lost-time accident. During this time the average factory in the United States had at least 1 fatality, 8 permanent partial disabilities, and 126 temporary total disabilities, for a total of 133 accidents, all causing suffering and time lost from work.

Pictures by courtesy of Westinghouse Electric Corporation.

RULES OF THE "INSIDE ROAD"

LIKE the highways of our nation, "inside roads" in plants and factories throughout the nation are becoming more and more crowded. Just as on highways—this can mean a higher and higher accident rate—but with proper driving habits this need not be. Here are rules of the "inside road" as practiced by materials-handling truck-drivers at the Cadillac Tank Plant of the General Motors Corporation. Setting up a group of rules such as these—*and enforcing them*—will keep the "inside road" a safe one to travel.

1. Inside truck drivers must be at least 18 years old and able to read, write and speak English.
2. They must pass a special physical examination and be trained, tested and licensed by the Safety Department. The license must be displayed at all times while operating trucks. Licenses must be renewed each year.
3. Drivers must not eat, drink, smoke or converse unnecessarily while operating a truck.
4. All supervisors and Plant Protection personnel are authorized to issue violation tickets for safety rule violations and to stop and prevent further operation of any truck being operated by an unauthorized driver.
5. Checking truck for gas, oil and mechanical defects before driving it from the garage is a driver's duty.
6. If required to go outdoors in cold or wet weather drivers should wear a jacket, coat, or whatever other clothing is necessary. Raincoats are available in



the tool crib for drivers.

7. Work should be arranged so that drivers do not enter congested areas at shift change or lunch time. When driving in areas where pedestrian traffic is heavy, drivers must proceed with caution.
8. The driver is always considered responsible for *all* accidents. Speed must be sacrificed for absolute control and ability to bring the truck to an immediate stop when required. The truck must be able to stop within 8 feet in open aisles or roadways, and within 3 feet in narrow aisles, near machinery and in congested areas. A distance of at least 10 feet between moving vehicles must be maintained. Where floors are wet or greasy driver must be especially careful.
9. Trucks must be completely stopped and the horn sounded before:
   a. Entering doors of all buildings.
   b. Approaching blind corners.
   c. Turning into or crossing main aisles.
   d. Entering ramps.
10. Vehicles must be started and stopped without skidding the wheels.
11. Passengers must be kept from riding trucks, trailers, pallets and loads.
12. Drivers should learn the capacity of their truck and lift no loads above that capacity. The weight of truck and the weight of each load hauled should be determined.
13. The driver is responsible for the safe delivery of loads, therefore, he must not haul unsafe loads. A load may be considered unsafe if it is too heavy, piled too high, the weight improperly distributed, or if the driver believes it cannot be transported safely to its destination. If asked to move a load which the driver believes unsafe, he should inform his supervisor immediately before lifting the load and then follow his instructions. The latter will see that the load is made safe, or, if he considers the load safe, he will accompany driver to its destination.
14. Carrying loose material on the forks of lift trucks, trailers, pallets, or on seats is forbidden. Move only material in boxes, barrels, skids, racks, pans, or similar containers which will safely hold the items being moved. Do not use pallets to transport loads which require a container with sides to prevent them from falling.
15. Be sure that no persons or objects are behind before backing away from a load, or backing into an aisle. Unnecessary driving in reverse must be avoided.
16. Driver must sound horn one or two short blasts when at least 20 feet from pedestrians he is overtaking and passing. Unnecessary and excessive blowing of horn must be avoided.
17. Driver must be sure his vehicle has sufficient clearance when meeting or passing other vehicles. Vehicles being overtaken may be passed only when they are stopped.
18. Platform and lift trucks must be operated with the load in front of the operator except when:
   a. The driver cannot see over the load.
   b. Turning to enter aisles.
   c. Pulling trailers.
19. The forks of empty lift trucks must always be kept level with and not more than 4 inches from the floor when the vehicle is moving. When the vehicle is loaded the load must be kept not more than 4 inches from the floor and level or tilted back slightly.
20. *Only tugs* may be used to tow trailers up and down ramps. No more than 2 loaded or 4 empty trailers may be pulled on ramps by 1 tug.
21. Lift trucks which are empty or carrying less than 100 pound loads must be driven up ramps in reverse and driven down ramps forward. Lift trucks carrying 100 pounds or more must be driven up ramps forward and driven down ramps in reverse.
22. Before driving a vehicle onto a ramp:
   a. Determine that all loads are secured to the trailers.
   b. Determine that the truck or trailer is loaded only with an amount which will permit easy stopping at any point on the ramp.
   c. Ascertain that the ramp is dry and free from grease and oil. Report any slippery condition to the supervisor.
   d. Come to a full stop. If the ramp is clear, proceed with caution in the lowest gear.
   e. Remember, before starting onto a ramp, the driver is the person responsible for transporting the load safely.
23. Before driving a shop truck onto a highway truck:
   a. Ascertain that the highway truck or its trailer wheels are securely blocked to prevent the truck from rolling away from the dock.
   b. Note the condition of the truck floor. If it is damaged to the extent that it may not support the weight of the shop truck, do not drive onto it.
   c. Determine that the distance between the truck floor and the dock is not so great as to tip the load or truck. (This precaution must also be taken when driving into a freight car.)
24. Oxygen, acetylene and other gas cylinders must be transported and stored in an upright position with safety caps securely fastened. Special cylinder racks must be used to transport these cylinders throughout the plant.
25. Barrels and drums must be transported in an upright position at all times. No more than 5 may be moved on a standard trailer. If they are to be transported on a ramp, the trailer must have end gates and the drums must be

(Continued on page 28)

New, Larger COVER GOGGLES

fit over ALL modern glasses . . .

● The new **series 548** and **549 Cover Goggles** by CESCO will fit comfortably over all popular styles of men's or women's glasses. A 20% increase in size over similar goggles permits clearance of even the modern extreme styles of personal glasses.

Newly designed, contoured edges eliminate pressure points on the nose. These curved, wide bearing surfaces also seal against the entrance of flying particles or light flashes. Larger air space within goggle reduces fogging.

Screw-type retaining rings permit quick lens change from front. Standard 50 mm lenses seat flush with rings to deflect flying objects. Chippers style has indirect ventilation through slotted lens rings and direct ventilation through perforated side shields. Welders and dust models have indirect ventilation through side shields.

Simplified buckle arrangement adjusts bridge width easily. Choice of 3 adjustable headbands: elastic, flat rubber, or Comfort King round rubber with no metal slides or buckles.

For a really modern goggle that will fit over a wide variety of glasses there is nothing better than the **No. 548** CESCO Cover Goggle. It is *"Right . . . before your eyes!"*

See or write your CESCO safety equipment distributor for full details

New CESCO **Cover Goggles** fit well over all popular styles of glasses—even over extreme types such as these.

FEATURES

Lightweight, sturdy plastic with contour edges. Weight is well-distributed for comfort and safety.

HEADBANDS

Three types, all fully adjustable—Comfort King round rubber, flat rubber, or elastic.

LENS VENTILATORS

Slots in edges of lens frames and rings are offset to baffle air flow.

SIDE SHIELDS

Baffled type for welders.

Perforated for chipping and grinding.

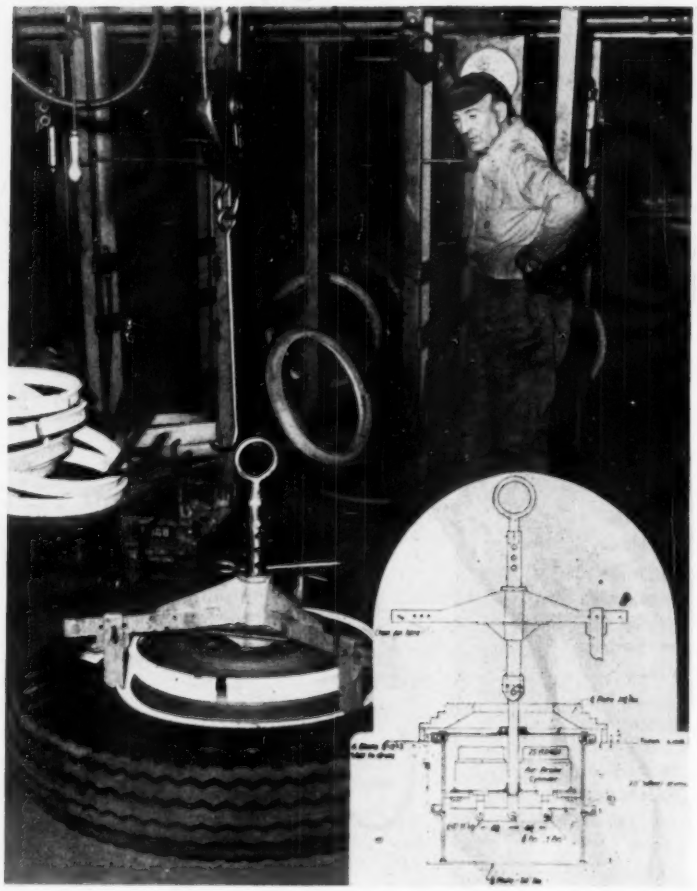
CHICAGO EYE SHIELD COMPANY • 2310 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

(For further details, use Key # E-10 on free Inquiry Card on page 77)

"SAFETY MAINTENANCE" Salutes a Safety Idea



Easy Tire Mounting

AIR and a hole in the ground—not usually associated with things successful—are the two main elements in a new time-saving and labor-saving device.

Mounting rims and tires for big, heavy-duty cars and trucks was a weighty job, taking the time and work of two or three men.

Now, through the new pneumatic tire and rim mounting machine designed by Autocar Company plant engineers, one man does the job quickly, safely and economically. And it is done without the risk of damage to the tire or rim which exists with other methods.

Set over an 18-inch pit, 24 inches in diameter, is a stepped-down, circular casting which can hold wheels or demountable rims 20, 22 or 24 inches in diameter. The bottom of this casting is at floor level.

Fastened on a plate in the pit below the floor level are a pair of air-brake cylinders, 6 inches in diameter, with a 2¾-inch stroke and a capacity of 1500 to 2000 pounds per square inch. Both brake cylinder arms are fastened to an 11-inch cross-piece of half-inch steel. A two-inch steel spindle rod attached to the center of this cross-piece rises through the center of the stepped-down casting to about 5 inches above the floor. A ⅝-inch cross-rod is mounted through the top of this spindle.

In mounting a tire, the operator first places a rim base on the stepped-down casting. Next, he drops the tire on the rim base, slips the side ring on and positions the locking ring. Then he lowers a 3-armed spider, hooks it to the spindle rod which comes up through the center from the pit and locks the two with a quarter turn. The three spider arms notch on to the side ring and, as the operator turns on the compressed air, force it and the bead of the tire down past the locking-ring seat on the rim. With a sharp tap of a hammer, the operator seats the locking ring.

The spider is released and the tire is then placed in a safety tire stall and inflated.

Autocar's engineering department figures that this is one case in which going into the hole has made money. It has resulted in quicker, easier, safer work and an improved operation at lower cost.

The Autocar Company, 945 Wood Ave., Ardmore, Pa. will supply plans for the device.

Picture by courtesy of The Autocar Company.

Ethyl Chloride Hazards

SAFETY rules and regulations for handling, storing, shipping and disposing of ethyl chloride are outlined in the latest safety data sheet SD-50 published by the Manufacturing Chemists' Association, Inc.

While ethyl chloride vapors are highly flammable and tend to form explosive mixtures with air, the data sheet points out that the material can be handled with safety if employees are properly educated and are familiar with its hazards. Also included are ICC regulations regarding loading and unloading and first aid procedures to follow in case of exposure to excessive vapors or excessive contact with skin.

Copies of the 16-page data sheet may be obtained for 25 cents from the Manufacturing Chemists' Association, Inc., 246 Woodward Building, Washington 5, D. C.

THE TELEPHONE GOES UNDERGROUND

Motorman talks to car dump operator at the surface as his loaded train approaches the mine entrance.

Communication system for motormen keeps mine traffic unsnarled.

IN MODERN coal mining, particularly with mechanized operations which have increased production and haulage, prompt and efficient communication is vital. Otherwise, serious bottlenecks could develop in traffic control.

To keep pace with increasing production at Mathies Mine near Finleyville, Pa.—where more than 11 thousand tons of raw bituminous coal are currently being mined daily—the communications system has been expanded during recent months. Results of this expansion program prove its value.

Each of 3 main line locomotives and 5 gathering motors operating over the double-tracked haulage system now is equipped with a phone unit comprising a transmitter and receiver utilizing the trolley wire for instant voice communication. Similar units are located at the car dump, the lamphouse and on the 2 spare locomotives at the mine shop.

The car dump operator can be in immediate communication with all motormen and can exercise efficient traffic control to assure smooth, uninterrupted flow of loaded cars out of the mine and empties back to the working faces, over many miles of track.

The system includes circuits based on the inductive train communication system used by many railroads. It employs a frequency-modulated (FM) carrier of 88 kilocycles, with an average modulation range of plus-or-minus 3 kilocycles which does not interfere with the conventional mine telephones.

What the Phone-Unit Does

The system has prevented many delays that crop up in haulage and other operations. Trains of cars are kept moving into and out of the mine without the "stop-and-go" necessary when motormen are compelled to climb down and report by telephone.

Recently, a motor broke down on the main line, tying up the haulage. Instead of having to look for a telephone, the motorman called the car dump operator and a spare motor was dispatched as a replacement. The exchange was made in less than 15 minutes. It is certain that the tie-up would have been considerably longer had it not been for the phone units.

The phone-system is a "party line" system: motormen, dumper and lamproom receive a message simultaneously. The chance of error is practically eliminated because any one of these men—if he heard an erroneous order that affected him directly or indirectly—could correct it instantly. Word of any emergencies such as roof falls, faulty track conditions, derailments or accidents is relayed immediately to concerned parties. Corrective action begins without delay.

Car dump operator is in instant communication by voice with all motormen and exercises effective traffic control on all cars.

The men themselves at the mine—motormen, foremen and others—like the assurance of good traffic control which the system gives them. There is less of the feeling, as one motorman put it, that the men in

(Continued on page 26)

Motorman, after reaching surface, phones car dump operator for traffic instructions.

An Open Letter to You — Mr. Safety Engineer

SAFETY BOX TOE COMPANY

MANUFACTURERS OF

Steel Products for Shoes

812 STATLER OFFICE BUILDING
BOSTON 16, MASSACHUSETTS

Dear Mr. Safety Engineer:

You have the training and experience to correctly choose anything and everything that will improve your industrial personnel safety program. Any protective device that will either completely eliminate injury or drastically reduce it is extremely valuable to your objective. The WINGUARD safety toe is just such a device.

The margin of WINGUARDS' 45+% added strength will either save toes without as much as a bruise or lessen the effect of injury to toes that might otherwise be severely crushed. Through such performance WINGUARDS will improve your toe safety record and contribute to broader voluntary use in your plants. Thus, on the safety shoe acceptance in your primary specification in your toe safety program.

Our emphasis on the superiority of WINGUARDS does not mean that we are attempting to sell them against other competitive straight back edge types. You see, with rare exception, we market just about all of both types of safety toes used on this continent. It is naturally our ambition to see every safety shoe containing the safest steel toe that science can produce. WINGUARD is that toe.

Very truly yours,
SAFETY BOX TOE COMPANY

Wirt G. Greenan

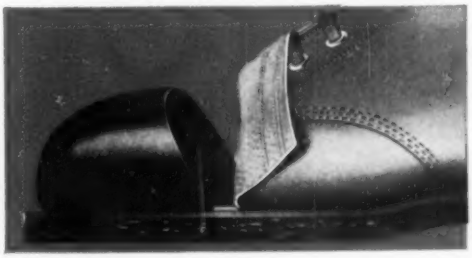
Wirt G. Greenan
Vice-President

W.G.Greenan/lmg

These Two Safety Work Shoes are identical except-

one is 45+% STRONGER

Your workers' toes will have 45+% more protection when you select the shoe on the lower right. This safety shoe contains WINGUARD 500 — the *safest* steel toe — designed to give maximum protection and comfort. WINGUARD safety steel toes were recently subjected to both compression and impact testing by one of the country's leading metallurgical testing laboratories and conclusively proved to average 45+% stronger and safer than non-WINGUARD steel toes otherwise identical.



WINGUARD 500 — for the rough and tumble work shoes that have to fight back against heavy odds. Its wings — secret of its greater strength — brace the steel toe against rearward tilting under impact. Its added supporting surfaces resist outward spreading under critical pressure.

WINGUARDS SAFEST STEEL BOX TOES

SAFETY BOX TOE COMPANY • 812 STATLER BUILDING • BOSTON 16, MASSACHUSETTS

(For further details, use Key # E-11 on free Inquiry Card on page 77)

the mine "are out of touch with each other unless they go to a telephone."

Most important, of course, is maintenance of a smooth flow of coal without traffic jams, haulage errors or collisions. The mine employs about 770 men, and has 8 miles of butt entry track, 5 of double main line, 3 of face entry track and 2 of main line and face entry side track. Without positive and rapid communications the mine could not operate as efficiently as it does.

The new phone-units are designed and constructed to withstand considerable shock and abuse. Standard radio tubes, proven in railroad, aircraft and police service, are used. The transmitting and receiving trays are mounted separately on a shock-resistant cradle in a dust-tight, splashproof metal case. For ease of maintenance, these trays are securely held in place by four studs, each of which can be tightened or loosened by a quarter-turn of a screw driver. Multiple circuit plugs connect the transmitter and receiver trays to the other components of the unit. The weatherproof loudspeaker and microphone can be mounted anywhere convenient to the motorman.

Since power from the trolley wire is used, no other power generating equipment is needed. The complete assemblies are compact and light in weight. Units on motors at the mine are identical to those in "stationary" service at the dump and lamphouse. The trolley line voltage of 550 volts D.C. is reduced to 275 to operate the phones by means of resistors connected as a divider. The unit requires an average of 2 amperes from the trolley circuit.

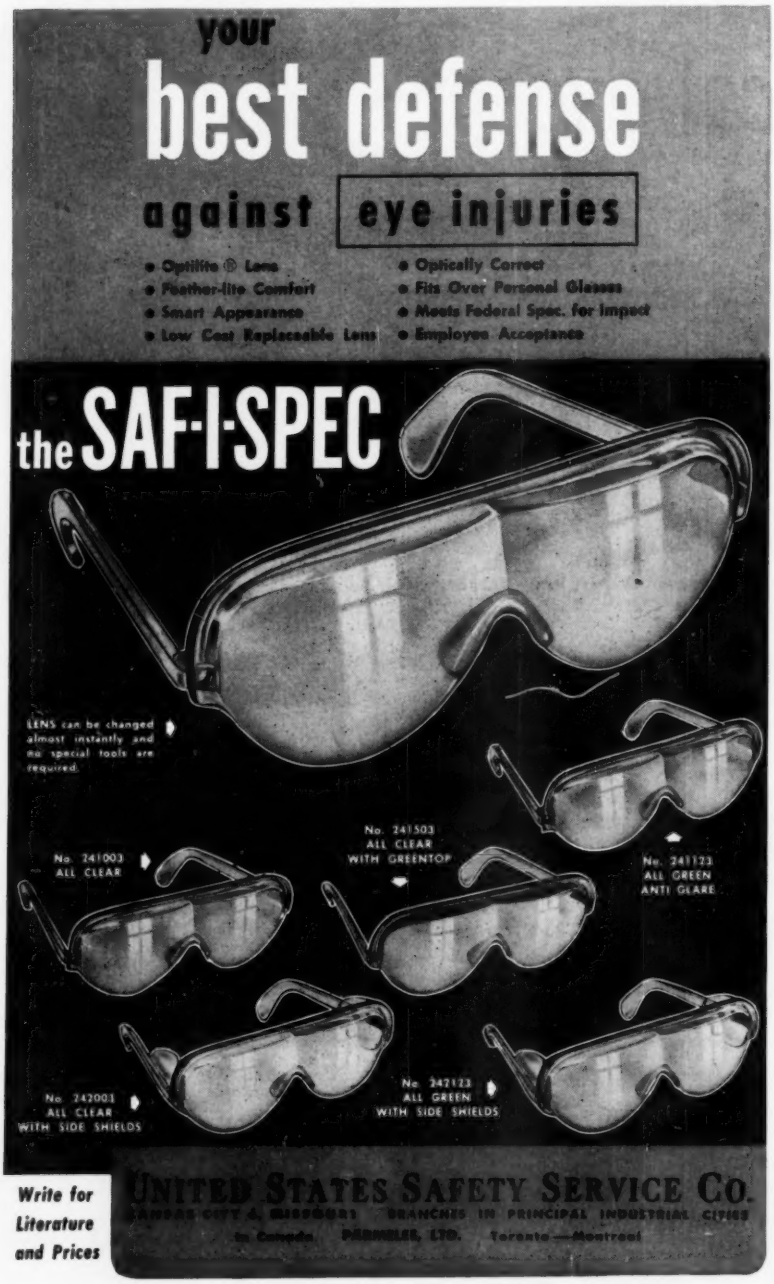
Normally the phone unit is in receiving position for a call, the transmitter being idle. When the motorman makes a call his transmitter is turned on by pressing the button on the side of his microphone. This shuts off his speaker so no feedback or howl is heard at the other end where his message is received.

The phone units on cable reel motors are wired in such a way that they are disconnected automatically whenever the motors are operating beyond the end of the trolley line, thus making explosion-proof construction unnecessary. In addition, isolating the microphone circuit completely from the power circuit assures greater safety.

Exchange of units is simple because of sectionalized construction. It is possible to change a section of the unit without disturbing the rest. To do this only minor knowledge of electrical circuits is needed. Easy accessibility of components simplifies their removal for service and substitution of stand-by units. The receiver is equipped with a squelch circuit which prevents noise being developed in the speaker while no one is talking, yet allows the receiver to come on instantly when a signal is received from another set.

The phone unit contributes much to the continuing increase in production and haulage with the greatest safety.

Pictures by courtesy of Mine Safety Appliances Company.


your
best defense
against eye injuries
• Optilite ® Lens
• Feather-lite Comfort
• Smart Appearance
• Low Cost Replaceable Lens
• Optically Correct
• Fits Over Personal Glasses
• Meets Federal Spec. for Impact
• Employee Acceptance
the SAF-I-SPEC
LENS can be changed almost instantly and no special tools are required.
No. 241003 ALL CLEAR
No. 241503 ALL CLEAR WITH GREENTOP
No. 241123 ALL GREEN ANTI GLARE
No. 242003 ALL CLEAR WITH SIDE SHIELDS
No. 242123 ALL GREEN WITH SIDE SHIELDS
UNITED STATES SAFETY SERVICE CO.
BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: DOMINION, LTD. Toronto—Montreal
Write for Literature and Prices
(For further details, use Key # E-12 on free Inquiry Card on page 77)

TO SWEEP UP DUST— DAMP IT DOWN!

FEATURE

Fourth of a series on Floor Maintenance. Preceding articles in February, March and April.

By E. WILLARD MERRITT,
Field Supervisor of Safety
Walter G. Legge Company, Inc.

NO LONGER do maintenance men stick to antiquated methods simply because they were "good enough 20 years ago." Nor do they use "cure-all" materials on the strength of their performance in a neighboring plant, the floors of which may have been of an entirely different composition.

Here's how this common sense approach applies to one of the basic aspects of floor maintenance—sweeping. Happily, old-fashioned dry sweeping is rapidly becoming extinct in factories, hospitals, institutions and commercial buildings. While it is handy for removing loose litter and rubbish, the push broom rides over silt and ground-in dirt. For the most part, it merely spreads dust from one area to another, stirring germs back into the air in the process.

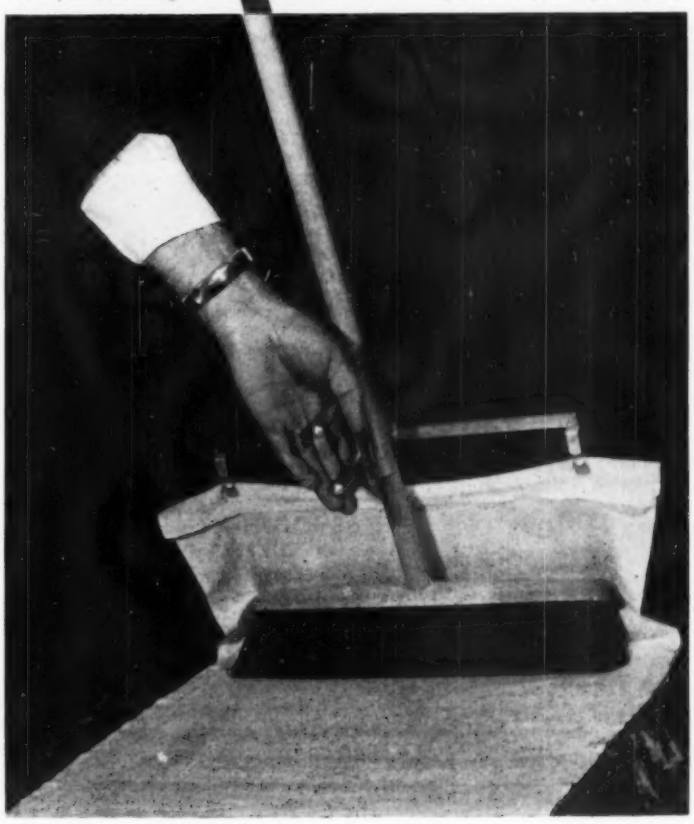
If you'd like an on-the-spot demonstration, make the handkerchief test. Spread your clean, white handkerchief—provided you are willing to have it laundered immediately—on your floor after dry sweeping. Use the palm of your hand, if you prefer. You will find a black smudge. It is produced partly by the dust agitated during sweeping which fell right back onto the floor within 30 seconds. Partly responsible, too, is the fine silt, the tiny particles, which entirely escape the dry broom. This is why some floors look perpetually dirty and why they require frequent stripping with high costs for labor and materials.

Now, consider the factors of sanitation and safety. Dust is recognized as a major carrier of bacteria. Besides the more common forms of dust, the tiny droplets formed by the residue of coughing or sneezing are a serious danger. Adequate ventilation frees the air of many of the germs contained in coughs and sneezes. However, others fall swiftly to the floor, there to mingle with dust particles. When agitated, they can reinfect either through the respiratory system or the skin via open sores or burns.

Saturating the air, dust has been known to ignite, causing serious explosions and fires in grain elevators. Chimneys and elevator shafts in industrial buildings are hazardous dust-saturation spots.

Countless slip-fall accidents have been traced by safety engineers to dust deposits on floors. Large numbers of these accidents have been costly propositions—costly to the victim in injuries and costly to man-

Lever permits raising of damp cloth attached to bar periodically during sweeping.



agement in liability, in lost production man-hours and in breakage of equipment.

Damp-Sweeping

With an eye toward suppressing dust, scientific damp sweeping tools are being developed. One kind is suited for crowded office areas, hospital patient rooms and all types of smooth floors. A double swivel permits the tool to be guided in any direction without lifting it from the floor. A cotton cleaning cloth with a taped center-hole fits over the handle, around and under the brush. The cloth is wet and wrung out before sliding over the handle and into place for sweeping. Another improvement comes in the form of attachments which utilize the push broom handle. One such device is a light-weight aluminum bar that fits over the broom handle, locking in place at any desired point. Clamps at either end of the bar hold the dampened cloth in place under the bristles of the broom. Starting with the bar just above the broom head, the clamp is periodically raised during sweeping.

This action pulls the soiled area of the cloth up and out of contact with the floor, at the same time locking in place under the broom a clean section of the cloth. The entire surface of the cloth should be used. In fact, the manufacturer recommends the use of both sides. The dust and grit picked up by the cloth are washed away permanently and the cloth is ready to be used again.

The principle of damp sweeping can be applied in brushing walls and ceilings, too. Cleaner, healthier working places, improved appearance, reduced maintenance costs are dividends of damp sweeping.

Picture by courtesy of Walter G. Legge Co.

For detailed descriptions of floor maintenance products see pages 321–345 of "Best's Safety and Maintenance Directory," 1952–53 edition.

"Inside Road"

(Continued from page 20)

bound together with a chain and binder.

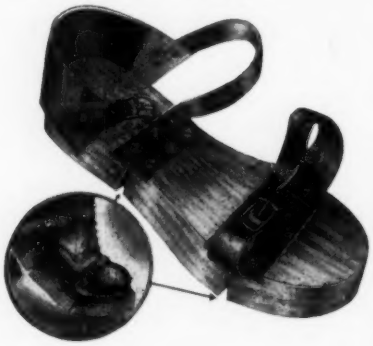
26. Acid carboys must be moved with caution. Move only empty carboys which bear a tag indicating that they are empty and have been washed. Move full and partly filled carboys only after the glass stopper has been wired in place.
27. Driving power trucks into paint shops and oil houses is prohibited.
28. Parking trucks, trailers, and materials in the aisles, in front of electric light panels, drinking fountains, fire alarm boxes, fire extinguishers, and other safety equipment is forbidden.
29. Vehicle must be kept free from grease and dust.
30. Trucks and other transportation equipment must be kept in good

I KNOW I'M SAFE... with WOODEN SOLES!

...FOR THE FOUNDRY

No. 351—An improved **Reece "Hot Foot" Sandal** with two strong sole leather hinges provides real insulation for those hot jobs. Straps on quickly over any shoe.

Sizes—Small-Medium-Large.



FOR BROKEN TOES

REECE ORTHOPEDIC SHOE
No. X175-CG-Men's No. X173-CG-Women's for BROKEN FOOT BONES— CRUSHED TOES
SMOOTHLY finished WOOD SOLE with AIRFOAM insole acts as splint. Keeps injured foot immobile.
Keeps a man on the job despite injuries. Fits over bandages. Easily stocked—no lefts—no rights. Also available without foot guard.
SIZES — SMALL-MEDIUM-LARGE

They Insulate
They are Puncture proof

STRONG STEEL TOE

No. 504-S—Double duty for safety with this **Reece "Perfect Rocker" Wooden Sole and Steel Toe Shoe** . . . made with durable leather uppers.
Keeps the feet at body temperature regardless of room or floor conditions.

Sizes—5–13

Write for Complete Catalog

REECE WOODEN SOLE SHOE CO.

There is no substitute for Reece Wooden Soles

BOX 32-M. **Columbus, Nebraska**

(For further details, use Key # E-21 on free Inquiry Card on page 77)

ORTHOPEDIC FIRST AID EQUIPMENT FOR INDUSTRY.
We make specialized equipment for industrial first aid. First Aid unit No. 1500, shown at left is typical. Constructed largely of non-critical materials, for civilian use. Inexpensive but sturdy.

Unit No. 1500 consists of: Pneumatic Tourniquet, Litter, Thomas Arm Splint (Rubber covered), Thomas Leg Splint—Half Ring (Rubber covered), Heel Rest, Ankle Hitch, Wrist Hitch, Leg Sling, Arm Strap, Carrying Case.

ORTHOPEDIC CRUTCHES SPEED POST-OPERATIVE RECOVERY.
O.E.C. Crutches prevent armpit distress—give patient complete comfort—ease of handling. Light and sturdy. Completely adjustable. Write for information.

Orthopedic EQUIPMENT CO.
BOURBON, INDIANA

condition at all times. To accomplish this, vehicles must be returned to the garage for gas and other servicing promptly at the scheduled times.

Repairs

31. Trucks must be immediately taken to the garage for repairs when defective. Take all damaged trailers, hooks, pallets, pans and other similar transportation equipment to the designated repair area.

32. Disabled trucks must be towed by another vehicle. They must not be pushed.

33. Always remove the switch key and license plate from the truck when leaving the vehicle.

34. All accidents involving personnel, material or equipment must be reported to the supervisor immediately.

Pictures by courtesy of General Motors Corp.

Public Utility Safety

CLIMAXING two weeks of intensive study, 21 delegates to Ebasco's Services' sixth Seminar in Public Utility Safety have been awarded certificates. Conducted by Ebasco Services Incorporated, a firm of engineers, constructors and business consultants, in cooperation with the Center for Safety Education of New York University, these annual seminars are designed to instruct utility staff and operating personnel in both basic and advanced principles of employee safety.

Emphasis is placed on the personal aspects of accident prevention, on the improvement of intra-company communications and on the integration of safety with training and operations. Through a combination of individual case studies and class discussions, each delegate to the seminar learns how he himself may best contribute to the prevention of accidents.

A new feature of the current seminar was a daily session devoted to analysis and discussion of factors commonly found in successful safety programs. Studied also were the elements of effective speaking, safety training, improved human relations and the fundamentals of successful supervision, as well as specific problems of fire prevention and protection and motor vehicle safety. Field inspections made by the group included visits to the Training School of Long Island Lighting Company, the Safety Departments of Consolidated Edison Company, the plant and proving grounds of the C-O-Two Fire Equipment Company and the safety and driver training facilities at First Army headquarters on Governor's Island in lower New York Bay.

This year's class included representatives from Greece, Guatemala, Brazil and Venezuela, in addition to those from all areas of the United States.

MSCo A-17 POISON IVY OINTMENT

proved in the field with eight years' case history

Give your field workers this proved protection against poison ivy, oak, and sumac. *Use as a preventive or cure.* Packaged by MSco under the Unit System to fit all standard unit type first aid kits. Accepted today by numerous field operative industries as a "must" in all first aid kits to combat the poisonous plant hazard. Write for complete details.

Medical Supply Company

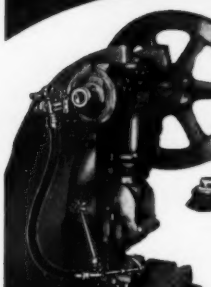
"It pays to buy—from Medical Supply"

ROCKFORD, ILLINOIS • IN CANADA, IT'S SAFETY SUPPLY CO.

(For further details, use Key # E-14 on free Inquiry Card on page 77)

LET'S SAVE All FINGERS

They're Precious . . . and Costly!



◀ Eject by AIR not with fingers.

Feed by AIR not with fingers. ▼

Keep Fingers Out of Presses!

LITTELL Pres-Vac SAFETY FEEDERS

Blanks fed from a safe distance of 14 inches.

Pres-Vac operates from compressed air at 45 lbs. pressure which passes through a venturi to create a vacuum.

AMPUTATED FINGERS COME HIGH!

Above figures are based on maximum rate of Illinois Workmen's Compensation from Division of Statistics and Research, Illinois Industrial Commission. (Figures for some states are higher.)

LITTELL AIR BLAST VALVES

Pieces forced out safely by air.

Blank parts weighing up to 2 lbs. are blown out of press with a standard Air Blast Valve.

F. J. LITTELL MACHINE CO.

Speed with Safety

AIR DIVISION

4187 RAVENSWOOD AVE.

CHICAGO 13, ILL.

District Offices DETROIT AND CLEVELAND

Write for catalog

(For further details, use Key # E-15 on free Inquiry Card on page 77)

Manufacturing Injuries In Fourth Quarter 1952

THE all-manufacturing injury-frequency rate for 1952 was lower than in any previous year on record, according to preliminary reports received by the U. S. Department of Labor's Bureau of Labor Statistics.

Preliminary reports indicate that the 1952 all-manufacturing rate was about 13.5 disabling injuries per million employee-hours worked. This is 13 percent below the final rate of 15.5 for 1951 and 7 percent below the previous low of 14.5 recorded.

Indications of this favorable experience were observed in the first three quarters of the year and were sustained by a substantial decline in the volume of injuries during the fourth quarter. This decline is considered seasonal and its occurrence in the regular pattern strengthens the assumption that the previous improvement is not due merely to chance circumstances.

In the fourth quarter of 1952 the all-manufacturing injury-frequency rate fell to an indicated level of 12.5, 11 percent below the average for the third quarter and 12 percent below the average for the fourth quarter of 1951.

In logging the injury rate dropped from 98.9 in 1951 to 89.5 in 1952, and in planing mills, from 48.1 to 40.2. Other industries recording substantial decreases were structural clay products, cutlery and edge tools, gray-iron and malleable foundries, steel foundries, cold-finished steel, veneer mills, metal barrels, sawmills without planing mills, sanitary ware and plumbers' supplies, and boat building and repairing.

Outstandingly low injury-frequency rates for 1952 were recorded by the synthetic fibers industry—1.4, ophthalmic goods—2.3, miscellaneous communication equipment—3.1, rubber footwear—3.2, aircraft manufacturing—3.6, electric lamps (bulbs)—3.6, explosives—3.6, synthetic rubber—3.7, radio tubes—4.5, women's and children's clothing—4.8, motor vehicles—4.9, tires and inner tubes—5.0.

TRANSPORTATION SAFETY

Rural Road Speeding

OFFICIAL representatives of 11 northeastern states have outlined plans for the nation's first regional highway safety drive aimed at "the growing evil" of increasing speeds on rural highways, which they blame largely for recent increases in the toll of traffic accidents.

Noting that spot checks in several states have revealed "a dangerous upward trend in average driving speeds on the open highway" by all types of vehicles, the State Safety Coordinators of the Northeastern States have taken concerted action to organize an immediate "slowdown campaign" on rural roads.

A resolution adopted unanimously by the group calls for simultaneous enforcement steps by police and the courts in the 11 states, accompanied by voluntary cooperation of individual drivers, to effect a permanent reduction in rural speeds.

The campaign, to be started "as soon as possible," will reach a climax in June, at the start of the season of heaviest highway travel by the region's 16,000,000 drivers, comprising more than one-fourth of the nation's 60-odd million motorists. The states in which the "slowdown drive" will be undertaken include Maine, New Hampshire, Massachusetts, Vermont, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware and Maryland.

30 Mile-an-Hour Minds

The coordinators, who activate official highway safety programs in these states, said "far more deaths and injuries in rural areas of these states can be expected to result if drivers continue to travel at high speeds at which they cannot hope to control their vehicles when a sudden emergency arises."

William M. Greene, director, Connecticut Highway Safety Commission and that state's motor vehicle commissioner, declared "large numbers of drivers with 30-mile-an-hour minds are driving into bad accidents at 60-mile speed." He told his fellow coordinators from other states that police cars are often compelled to drive 100 miles an hour to overtake speeders. He added that "many drivers of 1953 don't realize their high rates of speed on an open road because today's cars have so much power they don't notice increased speed. But we are aware that more and more drivers are hitting 70 in a 50 mile zone, and we mean to slow them down."

James R. Barrett, of Albany, Chief of the Police Bureau, Division of Safety, New York State, was re-elected chairman of the coordinator's group. Paul E. Burke, of Baltimore, director, Maryland Traffic Safety Commission, was renamed secretary.

Reduction Sought In Highway-Transport Cost

TENTATIVE research programs for determining the most economical range of sizes and weights of trucks to transport goods and freight over future highways has been completed by a committee of the Highway Research Board. An extensive study of the economics and load-carrying capacities of both highway freight vehicles and highway facilities is planned.

In explaining the need for the study it was stated that in the movement of freight by highway, the over-all cost to the ultimate consumer includes both the costs of owning and operating vehicles and the costs of providing highway facilities upon which trucks and truck combinations can operate. In the economic system of the United States, the ultimate consumer pays all the transportation costs, partly as direct charges for trucking services and partly as indirect charges for highway facilities.

The committee says that the broad task is to determine what types, sizes, and weights of freight-carrying motor vehicles can be balanced with pavements and bridges of appropriate capacities to produce the lowest over-all cost of highway freight transportation.

Previous partial studies indicate that, as the load capacities of pavements and bridges are increased, the costs of highway construction and maintenance increase. However, the degree and trend of such increased costs, per unit of freight transported, have not been fully studied. Other partial investigations indicate that, as the size and weight of truck combinations are increased, their operating costs, per unit of freight transported, decrease. The complete degree and trend of these operating costs, likewise, have not been fully developed. The committee say that its basic problem is to determine the range of truck sizes and weights, that will provide the lowest over-all cost of highway transportation for the total of commodities transported by highways, taking into account the 2 opposing cost trends.

Two phases of this broad research project have been programmed by Committee No. 5 of the Department of Economics, Finance and Administration of the Highway Research Board under the title of

(Continued next page)

"Economics of Motor Vehicle Size and Weight."

One phase will be a study of commodity densities, packaging methods, market units, and transportation tonnages to determine the optimum payloads for those commodities whose annual production tonnages are of sufficient importance to the economy of the United States that they should be transported at the lowest practical over-all cost.

The second phase of the committee's research is to determine the variations in both direct and overhead costs of operating highway freight vehicles, as the sizes and gross weights of the vehicles may be increased. From previous partial studies there are indications that the savings in direct operating costs progressively diminish towards the higher weights. Such a trend in costs would indicate that there is an upper gross-weight limit beyond which reductions in truck-operating costs cannot be obtained by using greater gross weights. The committee plans to determine the trend of operating costs by a comprehensive study of the statistics and costs of truck combinations of various capacities from about 35 thousand pounds gross to gross weights much above many present weight limits. To obtain the spread of data required it will be necessary to explore private road operations as well as all trucking on public highways.

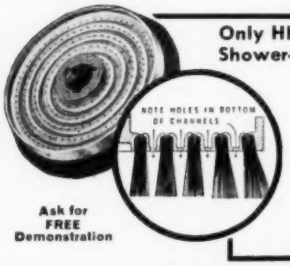
Another phase of the committee's research, which will be studied later, is the relative and actual costs of highways of various load capacities. Currently, research in this field is planned under the sponsorship of the American Association of State Highway Officials. One full-scale test of a series of pavement designs using flexible pavement construction is now underway at Malad, Idaho. It is under the sponsorship of the Western Association of State Highway Officials and industry, working cooperatively through the Highway Research Board of the National Research Council. The American Association of State Highway Officials is planning a full-scale road test in Illinois, which will include various pavements designs of both flexible and rigid construction.

In both of these tests, loaded tractor semitrailers of different axle weights are to be run many thousands of times over the different sections of pavements to determine the effects of specific loads on pavements of specific designs. These tests are expected to furnish cost data which can be used with information from the other two phases of the committee's project to predict the optimum range of truck sizes and weights that may provide minimum over-all highway-transportation costs in the future.

The Highway Research Board Project Committee is composed of representatives of state highway departments, planning survey departments and other interested government agencies, truck and trailer manufacturers, motor carriers and trade associations.

SCRAPE OR SCRUB WITH THIS ONE HILD MACHINE

Scrape off hard-caked grease and dirt ...scrub away dangerously slippery oil with this one powerful HILD Floor Machine! With Power-Scraper attachment the Hild Machine breaks up packed grease deposits...saves hours of tedious chipping away with a hand-spud. No danger of marring the surface or of loosening wood blocks. To remove oil film or slippery grease, use the HILD Machine as a Shower-feed Scrubber. It's equally speedy and thorough in open areas and in the "danger spots"... around, beneath and between machines. Use the same versatile Hild Machine for office floors also...to wax, polish, buff, sand, grind or steel-wool floors of all kinds. Six models with brush spreads from 11 to 19 inches.



Only HILD has the Shower-feed Brush

Diagram shows how cleaning solution flows from tank on handle through accurately spaced holes penetrating brush back between each row of bristles ...for thorough scrubbing with utmost economy.

Ask for FREE Demonstration

Write for FREE CIRCULAR

HILD System
MAINTENANCE EQUIPMENT & SUPPLIES

HILD FLOOR MACHINE CO. • 740 W. Washington Blvd. • Dept. SMP-5 • Chicago 6, Ill.
(For further details, use Key # E-16 on free Inquiry Card on page 77)

NEW YORK had its annual spring tonic of Safety when accident prevention, fire and hygiene authorities gathered with industrial representatives for the 23rd Greater New York Safety Convention a few weeks ago. At meetings and in discussion groups delegates exchanged ideas on how to prevent the expensive and unnecessary waste caused by accidents on the job, in the home and on the highway.

Just about everything to prevent accidents except a non-slip banana peel was shown at the four-day Safety Exposition held in conjunction with the convention at the Hotel Statler. One hundred and eighteen separate booths of safety and maintenance equipment manufacturers and human conservation organizations displayed the latest models of protective clothing, fire prevention equipment, guards, first aid items, hand cleaners, maintenance materials, posters and training aids, ladders, non-slip flooring, etc. A Drunkometer, used by the police in several states to measure intoxication in motorists was shown, and insurance groups offered exhibits to promote safety in the home as well as in industry.

Speakers at the convention itself discussed many areas of safety—dealing with problems, approaches and devices. Here are some of the things the convention heard.

Safety Programs

The "Bridgeport Experiment," which taught the General Electric Company the "hard way" that individual training of employees in accident prevention pays off, was described by C. Russell DeReamer, the company's manager of safety services. Mr. DeReamer said that early in World War II a system of mass education, with safety meetings and safety films, was instituted in the company's Bridgeport works, which employed 10 thousand workers.

A three months test, however, showed that this approach had failed to do the trick. The company then emphasized personalized instruction. This consisted of 4 basic steps: prepare the learner, present the instruction, perform the try-out and plan the follow-up.

"First-line supervisors were asked to analyze each job. Hazards connected with each job were discussed

with the worker. Clothing, protective equipment, work habits, controls, guards, the use of hand tools, etc., were thoroughly covered with the individual worker.

"Accident frequency hit a new low, positive proof that with proper direction and enthusiasm safe working habits can be implanted in the worker. Then, under pressure of the war emergency, management suggested that this training be curtailed. Just what was expected took place—the accident frequency jumped to its former level. A short while later top management again stepped in and said that contrary to their first impression, records showed that when the program was in operation production was up, spoilage down, quality up, and accident records down. Management ordered immediate resumption of the course to include not only the second shift but the first shift as well.

"Had this experiment been applied to the whole General Electric plant in Bridgeport, it would have saved the company over $450,000 for the years 1944, '45, and '46," Mr. Reamer concluded.

Municipal Safety

An on-the-job accident control program which now covers 165,000 municipal workers in New York City has reduced accidents so sharply in less than five years that city officials will investigate the feasibility of extending it to off-duty driving, home safety and other broader aspects of accident-reduction.

This was disclosed by Daniel F. Milchman, coordinator of the municipal accident control program. Mr. Milchman said that the city set up its own accident control program in 1948 after the Citizens Budget Commission had found an accident frequency of 51.7 in five municipal departments (Fire, Police, Public Works, Sanitation, Correction) which was "only 8.7 points better than the three worst accident industries in the country-marine transportation, mining and lumbering."

"For the calendar year 1951," he said "after three years of program activity, the same five departments show an accident frequency of 21.2. The 1952 tabulation is not yet completed, but the first ten months shows further reduction in accident frequency rates."

The program has been extended into other departments of the city government, so that coverage has increased from 50 thousand employees to 165 thousand. Sixteen thousand supervisors and foremen are trained in safety activities in 33 departments and four municipal colleges.

Mr. Milchman said the time had come for a thorough audit of the city's accident-reduction operations and practices. He added, "A review of this sort provides the ideal occasion to ask whether special elements like fleet safety, home safety, off-duty driving safety may be brought into the program without detracting from its present activities.

Accident-Repeaters

The child who rebels against parents and teachers may get a bruised back or a swollen hand—20 years later. This interesting sequence was outlined by Edwin F. Ahern, director of training and safety at the Hotel Taft, New York City. Mr. Ahern reported that the Health Center maintained jointly by the New York Hotel Trades Council and the Hotel Association had found, from studies of accidents involving hotel employees, that most accidents befell a relatively small number of "repeaters."

The highest accident frequency was among persons who were accident-prone for medical or emotional reasons, he said. Accidents caused by poor vision, high blood pressure, diabetes and other physical handicaps were decreased when those factors were identified and eliminated or alleviated, or workers were shifted to other tasks where those impairments were not so important.

As an example of the emotional factor in accidents, Mr. Ahern told of a waiter who had a bad accident record over 4 years, including a fall downstairs, collisions with other waiters causing breakage, and getting his fingers caught in a pie machine. An interview at the industry's health center showed that during that period his sister, to whom he was

(Continued on page 37)

EVERY MONTH

Additional Copies of the Safety Illustration on the Opposite Page Are Available for Immediate Delivery

Quantity	Price Per Picture *
1 to 10	10¢
11 to 25	9¢
26 to 50	8¢
51 to 100	5¢
101 to 500	4½¢
over 500	4¢

* These prices based on quantities of the same copy.

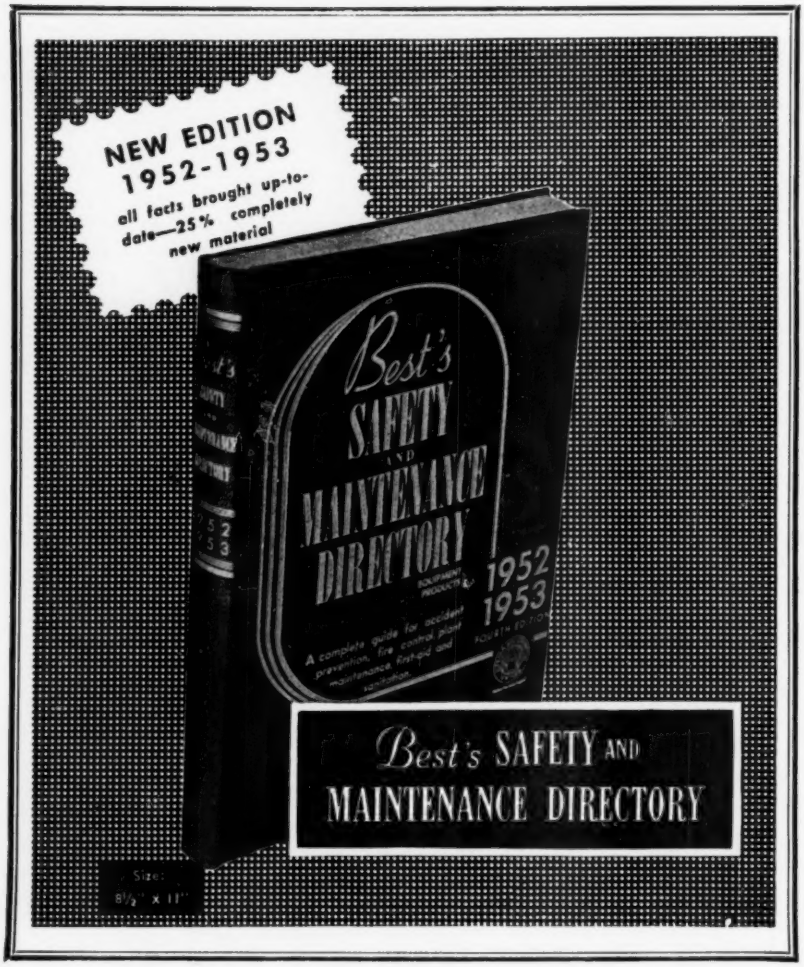
Inquire about the new, low-cost BEST'S PERSONALIZED SAFETY SERVICE for your clients, branch offices, department heads, etc. A continuous all-year-'round builder of safety and good-will, including:

1. ***Safety Maintenance & Production*** **EVERY MONTH**
2. **A Personalized Safety Letter & Bulletin EVERY MONTH**
3. **A New Multi-Colored Safety Picture EVERY MONTH**
4. **Additional Advance Copies of a brand-new Safety Picture EVERY MONTH**

AND the service includes complete handling, packaging, and mailing. For detailed information on this streamlined safety package, contact Alfred M. Best Company, Inc., 75 Fulton St., New York 38, N. Y., or any of our branch offices.

IT'S HORSE-SENSE ON LONG TRIPS
STOP FOR A REST
MT2113
3oc98
TT255
OR REST IN PEACE!

DOUBLE DUTY ANSWERS



what safety *and* maintenance products to use

when to use them

who makes them

where to buy them

The only work of its kind!

Now, the *only* up-to-the-minute *directory-manual-encyclopedia-index-catalogue* in the safety field becomes even more unique . . . more essential! The *new* edition of BEST'S SAFETY and MAINTENANCE DIRECTORY . . .

brings you invaluable new sections on Floor Maintenance Materials, and Equipment, Roof Construction and Roof Maintenance, Electrical Maintenance, Light and Illumination, etc.

expands every section . . . brings you up to date on the vast strides in safety in the last two years.

adds the most important new safety information of the century—a whole new section on RADIATION PROTECTION—covering materials . . . methods . . . equipment.

Single copies $5.00
(Quantity rates available)

ALFRED M. BEST COMPANY, INC.
75 FULTON STREET, NEW YORK 38, N. Y.

(For further details, use Key # E-17 on free Inquiry Card on page 77)

deeply attached, was in Cuba suffering from a bad heart condition.

"The separation plus the constant worry as to her condition," said Mr. Ahern, "caused him to be upset and inattentive on the job. Later he was able to transfer his sister to this country. She has since recovered and the waiter has not had an accident since."

Regarding more deeply-rooted emotional disturbances and their effect on accident frequency, Mr. Ahern said: "The psychotic accident prone is an employee who, for deep-rooted reasons in his personality, is permanently prone to accidents and needs professional attention. At the Health Center there is a psychiatric diagnostic clinic. If, after a diagnostic test, in the opinion of the board it is necessary, the employee is referred to an outside professional psychiatrist. Evidence seems to indicate that the accident-prone runs to type. He is the kind of person who as a child resented parental authority; later, at school he resented the teacher. In his job, there is a carry-over or transference of rebellion against the boss or supervisor. He is a person who resents authority in any form, has a fatalistic attitude, believes accidents have to happen, and, of course, this attitude creates accidents."

Color Aids Safety

One way to reduce accidents in industry is to paint machines and other equipment in different colors than those now in common use, the convention was told by N. A. Mason, manager of maintenance painter sales of the Pittsburgh Plate Glass Company. He said the safety factor would be increased by changing the color of machines and machine tools from the prevalent gray to green or yellow green, with lever handles in beige and using "an alerting color" such as orange on the emergency stop button.

"Until the advent of color as a psychological force in World War II," continued Mr. Mason, "most

"Where canvas gloves lasted 3 to 4 days, Edmonts wear 3 to 4 weeks"

— Homer Foundry Corp.

Many well managed plants, like Homer Foundry Corporation at Coldwater, Michigan, have greatly reduced the cost of supplying gloves to workmen by standardizing on modern fabric gloves with tough natural rubber or NEOX coated palms. Workmen find these cloth-backed gloves more comfortable than "dipped" gloves and more suitable for hot castings than plastic gloves which tend to melt with heat.

Long-wearing natural rubber coated glove used at Homer Foundry . . . .

NEOX (Reinforced Neoprene) Coated Gloves Best Resist Combined Cutting and Abrasive Wear, Oils, Chemicals and Heat . . . .

NEOX gloves are available in 3 weights of coatings and many styles, palm-coated or fully coated to fit job requirements.

We also produce 11 types of plastic coated gloves, including new DUROX (reinforced plastic) which has exceptional *wet grip* in contact with oil and outwears other plastics up to 50%.

Job-Fitted Gloves Pay Dividends to Management in fewer lost-time accidents, faster work handling, less spoilage, better employee attitude and 40% to 70% average savings in glove costs. As world's largest maker of coated industrial gloves we will recommend the type that best fits your application.

Free Test Offer: Send brief description (on business letterhead) of your operations, materials handled and temperature condition. Without cost we will supply samples of the correct gloves for testing on-the-job.

Edmont job-fitted gloves

Edmont Manufacturing Company
1256 Walnut St., Coshocton, Ohio

(For further details, use Key # E-18 on free Inquiry Card on page 77)

machines and machine tools were finished with varying shades of gray gloss enamel. The dark color effectively camouflaged dirt and grease accumulation and the high gloss finish prevented oil absorption and made the few attempts at machine cleaning comparatively easy. The operator of the machine was never considered, nor was the work environment."

Mr. Mason said the light reflectance of machine dark gray was about 5 percent so that "only 1/20th of the available light reaches the eye." He said this required "concentrated seeing effort at the point where machine work is being done." This induces eye strain. The situation is aggravated when the worker, looking up quite often to "rest his eyes" encounters the usual white wall, which reflects 85 percent of the light.

"The brightness contrast is so great," he said, "that eye adjustment is necessary before good visual acuity is secured. The eye muscles must reduce the size of the pupil. This takes time. The adjustment may be compared to your experience of coming from a movie into bright sunlight. As the eye returns to the task at the machine, a reverse action takes place. Such an adjustment, hour after hour, day after day develops eye fatigue and nervous tension. As this reaction increases, the operator leaves the job for a few minutes, production slows down, and under this physical strain the worker is more susceptible to an accident." Mr. Mason concluded that a grayed yellow green, with a light reflection factor of about 25 percent, was the best color for the machine body. He also explained the relation between machine colors and those of walls and other surroundings and equipment for maximum safety.

Industry Safer

There is no safer place in the world today than the average American industrial plant, Harold K. Kramer, former president of the Greater New York Safety Council, told the convention. Mr. Kramer said cooperation between unions and management has reached such permanent status in the field of safety that "no one person or even groups of persons can halt its progress."

Mr. Kramer asserted that there was a place for government regulation in the safety field but that government should not seek to effect by compulsion improvements that may be achieved through cooperation of labor and management.

He added that progress in the mechanical aspects of safety has made such strides that today the human factor represents "the most probable important single aspect of any sound approach to accident prevention," and that dealing with the individual was a field in which labor-management cooperation could produce greater safety.

Training Needed

There is a very serious need for safety training among the 5 million workers employed in the re-expanded aviation industry, the convention heard from William E. Gannon, safety director of the Aircraft Division of the Twin Coach Corporation, at Buffalo, N. Y. Mr. Gannon estimated that 80 percent of present workers in the industry still have to be trained for safety.

After World War II, the industry was seriously cut down; its specialists and craftsmen drifted to other fields.

Mr. Gannon cited the situation in Buffalo where, he said, 100,000 "skilled, safe-working aircraft workers" were employed in World War II but today there were "less than 25,000 skilled safe aircraft workers available."

"This year," he said, "approximately 5 million Americans will be engaged in the manufacture of aircraft and its components. If the Buffalo formula of lost aircraft workers is a national pattern, we have more than 4 million aircraft workers to train to be safe workers."

Mr. Gannon stressed that direct contact with the individual worker and the placing of responsibility for safety upon supervisors were the most effective, though not the only methods employable in safety instruction.

Boiler Explosions

Many fatal explosions in industrial cookers, boilers and other pressure vessels occur because management and the men in charge of the devices lack the knowledge to handle them and to make sure they are in good working order, according to Francis A. O'Neil, plant administrative engineer of Wallace & Company, of Brooklyn, N. Y. Mr. O'Neil said that another contributing factor to avoidable explosions in industries using pressure vessels was the "lack of necessary personnel in the various city, state and federal agencies, all of which have written volumes of codes, rules and regulations concerning these subjects."

Criticizing the governmental regulatory bodies, Mr. O'Neil said, "They promptly put them (rules) into law and forget completely about them until someone or some group of persons is blown to bits. Then there is a great fuss about what is going to be done regarding this deplorable situation."

As for the lack of responsibility among management and supervisory employees, Mr. O'Neil said it was "astounding how many plants have boiler safety valves that are plugged, defective or otherwise inoperative." He recounted specific cases, including that of a company which bought second hand several jacketed pressure kettles. It was only after a fatal explosion, Mr. O'Neil said, that investigation showed that the kettles were not of standard construction and the company that bought them had placed them into operation without testing.

Hot Line Tools

The expression "I wouldn't touch it with a 10 foot pole" can be reduced to 8 feet and still be safe for workers on high tension wires, Russell M. Grogan, manager of line

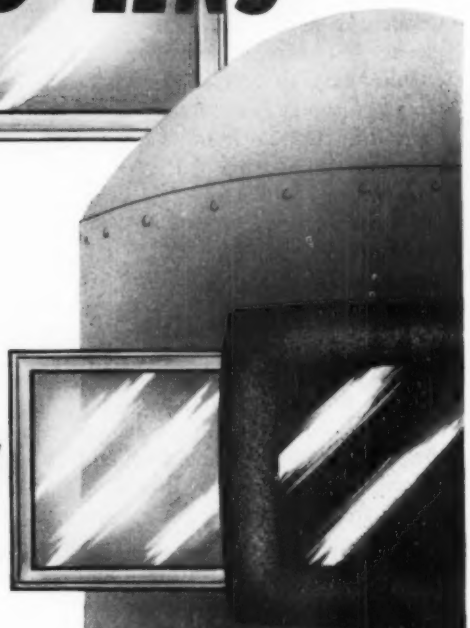
New! FOR WELDERS WHO WEAR BIFOCAL GLASSES

PENOPTIC*

TRADE MARK

MAGNA-WELD LENS

REGAINS LOST BIFOCAL VISION



WITHOUT MAGNA-WELD LENS
Bifocal vision through helmet window is limited by improper alignment of window and bifocal segment.

WITH MAGNA-WELD LENS
Bifocal power is provided through entire window area, completely eliminating use of eyeglass bifocal segment.

Now... an effective optical aid which gives the welder who wears bifocal glasses the advantage of "full window" vision.

The Magna-Weld has lenses made of fine ophthalmic glass, precision ground and polished, and mounted in a sturdy frame which fits any standard welding helmet.

Magna-Weld comes in 2 sizes, 2"x4 1/8" and 2"x4 1/4" and in 8 accurate powers — 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50.

Penoptic's manufacturer-to-you distribution policy offers new opportunity to save with safety. For price and full information, write directly to the Pennsylvania Optical Company, Reading, Pa.

By the makers of:
PENOPTIC* WELDING LENSES
SAFETY LENSES
SAFETY GOGGLES

PENNSYLVANIA OPTICAL COMPANY

READING, PENNSYLVANIA

Known for Fine Ophthalmic Products Since 1866

*PENOPTIC is the trade name of Pennsylvania Optical Company

(For further details, use Key # E-19 on free Inquiry Card on page 77)

construction and maintenance of the Long Island Lighting Company, Hicksville, New York, told the convention.

Mr. Grogan showed a film of lighting company men doing "hot stick" live line work. He explained, "hot stick line work is work done on energized conductors by means of tools fastened to sticks instead of being held in the lineman's hand."

The poles are usually 8 feet long, and to their ends are fastened the line tools. Linemen handling the wooden poles do not wear rubber gloves, Mr. Grogan explained, to enable them to feel a "fuzzy" or vibratory sensation caused by a "brush discharge" from the wood when the pole is grasped too near the energized conductor. This warning would. not be sensed through rubber gloves, he said.

The wood in the sticks is rated as insulation against 75,000 volts per foot for 5 minutes. The wood usually used is spruce, but oak, douglas fir and yellow birch are also used. Selection is based on the combination of strength, light weight, durability, straightness of grain, freedom from knots, and working qualities such as susceptibility to drying, treating, and machining.

"In order that the wood of the live line tools may always be a good insulator, the tools are kept at all times as dry and clean as possible. When hot sticks are not in use they are stored in a warm dry location. During field use, hot sticks are laid on canvas mats or stood up against the truck or trailer to avoid accumulation of dirt or moisture," Mr. Grogan concluded.

Fire Protection

The danger of fire and smoke spreading in a department store through the escalator openings has been lessened by new devices that have been tested and found effective, reported Nolan D. Mitchell, consultant in the building technology division of the National Bureau of Standards.

"The managers of stores realize," Mr. Mitchell said, "that the flight of a well-located unenclosed escalator permits the customer a view of a large area of the sales floor. Therefore, the tendency has been to locate escalators so that the view from them will be impressive. This has left large floor openings unguarded against the passage of fire and smoke."

Three methods have been approved by The National Fire Protection Association. The first uses a curtain of water to envelope the escalator opening. The second shuts off the opening with a rolling steel shutter. The third uses a high velocity water spray to create a downdraft through the floor opening stronger than the thermal convection created by the fire. "Each of the three methods," declared Mr. Mitchell, "can be actuated by automatic means through rate of temperature rise devices, smoke detectors, or fixed temperature thermostats as well as by manual means. Some of the actuating devices used are simple and dependable and should require little maintenance."

Better methods of handling materials and distributing products were seen by R. C. Waehner, general distribution manager for Lever Brothers as a major field for cutting costs and curbing inflation. He told the convention that the time has come for management to "recognize the tremendous importance in the cycle of modern business integration under qualified management, of the functional responsibility for packaging, material handling, transportation and distribution."

He explained how Lever Brothers had set up a general distribution department, including all transportation, warehousing, and labor involved in receipt and delivery of materials and in handling after finished goods leave the case sealer. Explaining the close work of this department with the corporation's safety engineers, he told how warehouses are designed for labor-saving and accident-prevention storing of goods and different types of mechanical equipment are selected.

SAFETY ACHIEVEMENTS

SAFETY honors were recently bestowed on Lockheed Aircraft Corporation's Department 15–20–Precision Assembly. This department, with about 580 employees, for the past 6 years has turned out thousands of fuel and hydraulic lines, electrical systems, instrument panels and other vital aircraft controls without a single lost time injury. Recently the department completed 5,006,371 accident-free manhours to establish a new safety record in the company.

Two other departments receiving recognition were Department 16–41–Fighter Subassembly and Department 22–30–Constellation Flight. Both these departments have completed 5 full years without a single lost time industrial injury.

THE annual Ebasco "Gold Safety Award" has been presented to the Construction organization of the E. M. Poston Steam Electric Station, a new Columbus and Southern Ohio electric company plant, in a special ceremony held at the station in Athens, Ohio. The award was presented for achieving an injury index 84.03 percent below the national average in the construction industry.

The "Silver Safety Award" was presented to the Murray Gill Steam Electric Station, Kansas Gas and Electric Company's new plant, in Wichita, Kansas for achieving an injury index 62.32 percent below the national construction industry average. "Certificate of Achievement" Safety Awards were presented to the construction organization of the Hawthorne Steam Electric Station, Kansas City Power and Light Company plant at Kansas City, Kansas for achieving an injury index 42.25 percent below the national average;

(Continued on page 44)

"COLS-ALL PURPOSE" GLOVES

OUTWEARS UP TO

24

TOUGH
FLEXIBLE
LIQUID PROOF
WEAR RESISTANT

ABSOLUTELY FREE
Write on your company letterhead for free pair of sample gloves.

PAIR OF ORDINARY WORK GLOVES

"Cols-All Purpose" Vinyl coated canvas are made to fit into the picture wherever work gloves are needed. Their rough, tough ability to take it makes them the working man's favorite. Their long wearing qualities make them fast friends of the wearer. That's why you hear so many men tell the fellows on the job that they are the best gloves they have ever worn.

A Real All-Around Champion Work Glove

Also, ask your Jobber for Cols-All Purpose Work Gloves

COLUMBUS GLOVE MANUFACTURING CO.

1836 EAST FULTON STREET
COLUMBUS 5, OHIO

(For further details, use Key # E-20 on free Inquiry Card on page 77)

ENTHUSIASM

...INSTEAD OF Tolerance

By using imagination you can make safety attractive... vivid... interesting... and show each worker clearly how safety benefits him. And you have his enthusiastic cooperation—not mere tolerance.

YOUR
Safety News
PUBLISHED IN THE INTEREST OF YOUR SAFETY
THE JOHN DOE COMPANY, INC.
Why Your Safety Means So Much
in Big Plants
& Small
Let's put it this way: Assume that an average workman has a wife and two children and during a year's time each member of the family has an accident, such as a bad fall, cut, burned fingers or any injury that would prevent normal activity for a day or so. This might not seem too bad. But suppose in a plant of 10,000 workmen, each employee has a lost time accident. That would mean 10,000 injuries in one year! WOW!
Small plants SEEM to have so few accidents that many of them do not even figure their rate. If they did, the chances are they would get a big surprise, for the accident rate of small plants may be higher than for big plants. It doesn't matter what size plant we have—safety requires the cooperation of everyone for his own good.
As we see it:
Play it safe wherever you are.
John Doe

Size 5½" wide x 8½" deep

...talks the worker's language!

Full of color, pictures, humor and snap, it makes safety interesting and down-to-earth. 12 times a year it covers every accident hazard. Nationwide, leading industrial firms state it's the *only safety paper their employees will read* . . . and take home to their families.

It gives you the advantages of personal contact, saving time and money. When it prevents one Lost Time accident, it has more than paid its cost for the year. Try it... it works!

Your Imprint Here!

makes YOUR SAFETY NEWS your own publication . . . a good-will ambassador . . . another force for better industrial relations.

Every employee feels bucked-up by a note from the boss. If you desire, your facsimile signature can be printed here.

Your Signature Here

NOTE:
Nothing of a controversial nature that might offend or embarrass either management or labor is ever published in YOUR SAFETY NEWS!

INSIDE PAGES
(pages 2 and 3)

IN YOUR EMPLOYEE'S INTEREST

Your employee's self interest in his own safety is always emphasized. Even household hazards are covered to keep him safety-conscious every minute, not only in the plant, but at home and on the way to work.

CHOCK-FULL OF ILLUSTRATIONS

Artwork is carefully chosen to lodge home each point. The cartoon style makes YOUR SAFETY NEWS as familiar and as welcome as the Sunday supplement.

THE "FOLKSY" APPROACH

Keeping the contents folksy, adding the grace note of humor, delivers your safety message with a nudge instead of a bludgeon. Your monthly chat gets enthusiasm instead of tolerance.

VIVID COLOR

Generous use of color gives sparkle, adds to the attention-riveting qualities of YOUR SAFETY NEWS. Each issue is as lively as any news-stand favorite.

HOW TO ORDER

YOUR SAFETY NEWS may be ordered with either the Standard imprint or with your Own Special Imprint. The Standard Imprint reads PLEASE COOPERATE FOR THE SAFETY AND HEALTH OF ALL . . . signed . . . A SAFE WORKER.

You can personalize YOUR SAFETY NEWS with the name of your firm and the name or facsimile signature of a company representative as illustrated. Give full instructions for your Special Imprint on the order blank below.

Item (1) FIRM NAME. Please show the name of your firm exactly as it is to appear.

Item (2) INDIVIDUAL NAME OR SIGNATURE, if desired. In the large space provided, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

NOTE: Although a personal signature is effective, some firms substitute: SAFETY DEPARTMENT, YOUR SAFETY COMMITTEE, A SAFE WORKER, etc.

Clip Out & MAIL TODAY!

ALFRED M. BEST COMPANY, Inc. • 75 Fulton Street, New York 38, N. Y.

Gentlemen:

Until further advised, please publish for us each month..... copies of YOUR SAFETY NEWS at .....¢ each.

☐ **Special Imprint** ☐ **Standard Imprint**

Item (1) — Our Special Imprint should appear as follows:

.....

Item (2) — (if desired) — Please imprint the name or signature shown below, or the following:

( )

INVOICE TO:

Name.....

Firm Name.....

Address.....

City..... **Zone**..... **State**.....

PRICES

Per Month	Your Special Imprint	Standard Imprint
6,001 copies and over	2½¢ each	2¢ each
3,001 to 6,000 copies	3¢ each	2½¢ each
1,001 to 3,000 copies	3½¢ each	3¢ each
501 to 1,000 copies	4½¢ each	4¢ each
200 to 500 copies	5½¢ each	4½¢ each
100 to 199 copies	6½¢ each	5¢ each
25 to 99 copies	*	5½¢ each

*5½¢ each plus $3.00 per month for Special Imprint F.O.B. New York, N. Y.

Safety Achievements

(Continued from page 40)

and, to the construction organization of the Westinghouse-Columbus Electric plant for achieving an injury index 36.25 percent below the national construction industry average.

A 38 PER CENT reduction in the accident frequency rate in the scrap iron and steel industry in New York state occurred during 1952. An intensive safety and educational campaign conducted by the State Labor Department's Division of Industrial Safety Service aided extensively in this reduction.

The accident frequency rate of the industry in the state was 77.26 accidents per million man-hours during the last half of 1951 according to the Department's figures. The campaign aided in reducing the figure to 47.73 for the full year of 1952. Conducted with the cooperation of the United States Department of Labor, the campaign included 7 inspections, 8 educational releases and 2 letters for each of the 161 establishments in the State. This is the first time the State Labor Department has covered a complete industry over a full year's period in this way.

RECENTLY, 126 employees of the Diamond Alkali Company were cited by the Portland Cement Association for their outstanding achievements in safe workmanship. Representing 1,237½ years of no-lost-time accidents, these men were awarded safety honor cards, which read:

"This certifies that ..... has a record of ....years safe workmanship. His wisdom and caution have helped win the portland cement industry eminent leadership in accident prevention.

"In acknowledgment of his personal safety record and of his pledge of loyal cooperation in continuing to meet the safety demands of his work, this HONOR CARD is awarded."

Silver Honor Roll Certificates will be bestowed upon employees having attained 25 years without a lost-time accident. Employees at the company's Standard Portland Cement Plant include one with 27 years of accident-free service, five with 26 years, nine with 25–20 years, and 24 with 19 to 15 years.

MORE employees were injured away from their jobs in Du Pont plants and laboratories in January than were injured in all of 1952 on those same jobs, the company reports. An actual count of off-the-job lost-time injuries in January discloses that 141 employees were hurt away from work, while the total injured in 1952 at work comes to only 86.

Time-losing injuries per million man-hours of exposure show an off-job rate of 6.01 for January while the 1952 rate for the company was 0.60. This record was an improvement of about 10 percent over 1951, the company's best previous year. The most recent available rates for the chemical industry as a whole and for all industry are 5.48 and 9.06 respectively, both of which represent much improvement in recent years.

According to J. Sharp Queener, manager of Du Pont's Safety and Fire Protection Division, the company is making a long-range study of comparative rates of off- and on-the-job safety to establish a program to improve safety away from work. Mr. Queener suggests that a man who is safety conscious on the job tends to be safety conscious off the job.

Principal cause of off-the-job accidents in the Du Pont study were motor vehicles, accounting for 40 percent of the injuries; and falls, accounting for 30 percent.

Of the company's 117 plants, 72 completed the year without a single time-losing injury. The rayon plant at Old Hickory, Tennessee has a safety record covering more than three and one-half years, of 24,871,800 man-hours without a single time-lost injury.

Combat heat fatigue
with Morton
Nausea-Free Salt Tablets

When temperatures soar and heat fatigue threatens your workers, be prepared with Morton Yellow Impregnated Salt Tablets.

GIVING FAST, POSITIVE RELIEF — their controlled action prevents nausea so often common with ordinary tablets. Each salt crystal is thoroughly impregnated by a special process so that the tablet dissolves at a uniform rate, releasing just the right amount of salt to prevent heat fatigue *but never enough to nauseate!*

Three attractive dispensers available. A NEW, DISPOSABLE DISPENSER, a functional plastic dispenser, and a heavy duty aluminum dispenser.

Beat the hot weather—order Morton Salt Tablets now. If your local safety equipment distributor cannot supply you, write us for the name of the Morton distributor nearest your office or plant.

MORTON SALT COMPANY
Dept. ST-5 120 So. La Salle St.
Chicago 3, Illinois

(For further details, use Key # E-23 on free Inquiry Card on page 77)

Industrial Hygiene

Associate Editor
Jacob A. Goldberg, A.M., Ph.D.

Management's Responsibility For Occupational Health

MANAGEMENT Responsibility for Occupational Health will be the subject of a one-week special summer program during the 1953 Summer Session at the Massachusetts Institute of Technology from June 22 to June 26.

The basic philosophy of the program, according to Dr. Ernest H. Huntress, Director of the Summer Session, is that health—both physical and emotional—can be promoted with mutual satisfaction in the employer-employee community.

The program will be jointly supervised by Dr. Dana L. Farnsworth, Director of the M.I.T. Medical Department, and Dr. Harriet L. Hardy, Head of the M.I.T. Occupational Medical Service. They will be assisted by special lecturers from the M.I.T. staff and by others qualified in this field.

According to Dr. Hardy and Dr. Farnsworth among topics to be presented are: industrial medical organizations and supporting administrative relationships; effects of toxic chemicals, harmful dusts and excess ionizing radiations, with methods of control; procedures for handling fire and explosion risks; and personality factors involved in the relationships within industrial organizations.

Specific Hazards

Each member of the course will be given an opportunity for special study on the potential health hazards of his particular industry. Such problems as the privacy of medical knowledge, medico-legal responsibility, management's interest in proper placement of very young and aging workers and rehabilitating younger injured workers will be discussed. An attempt will be made to collect and organize those facts of human relationships useful to executives in the improvement of their own organizations.

Registration in the summer course on Management Responsibility for Occupational Health will be limited to 60 persons; this group will be sub-divided into four sections to make possible more detailed study of individual and specific problems.

Further information concerning the summer course in Management Responsibility for Occupational Health may be obtained from the Director of the Summer Session, Room 3-107, Massachusetts Institute of Technology, Cambridge 39.

Restaurant Sanitation Code

A NEW 60-page bulletin contains the recommendations of the Public Health Service for the adoption of uniform codes for the regulation of eating and drinking establishments. As it points out, this ordinance and code is proposed for adoption by states, municipalities, counties, and health districts to encourage a greater uniformity and a higher level of excellence in the sanitary control of these public places.

Both the suggested code and ordinance are given in detail, and a recommended inspection form for eating and drinking establishments is included.

Copies of this bulletin are presently available in limited supply from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. at 25 cents each. Remittance by cash, check or money order should accompany the order.

FEATURE

First in a feature series on Plant Sanitation. The next articles will appear in June and July issues.

CLEAN WASHROOMS—

MAINTENANCE SCHEDULE

Sequence of Steps	Daily	Weekly	Periodically
1. Paper Stocks	Empty waste baskets—check stock	Check & clean dispensers	
2. Soaps	Check stock	Check & clean dispensers	
3. Mirrors	Clean		
4. Deodorants	Check for odor & spray		
5. Washstands & Fixtures	Clean & Sanitize		Clean Drains & traps
6. Commode	Clean & Sanitize	Maintenance procedure for drains & traps	Check for leaks & cracks
7. Urinals	Clean & Sanitize	Maintenance procedure for drains & traps	Check for leaks & cracks
8. Pipes	Polish		Check for leaks & cracks
9. Lights			Clean and replace
10. Windows			Clean
11. Walls			Wash & Sanitize
12. Floors	Clean & Sanitize	Scrub thoroughly	Seal and refinish

By J. M. POMRANZ
Consolidated Chemical Laboratories Inc.
Saint Louis, Missouri

THE success or failure of many projects often rests on the ordinary everyday things that don't get enough attention. The story of the king dethroned because of a horseshoe nail can easily be changed into the tale of the firm which lost a large contract because one sick worker jammed a vital machine, closing down a complete production line.

Every individual employed by your firm, from executive to maintenance man, is entitled to more than "just adequate" sanitary facilities. The standards of cleanliness applied to each washroom should be comparable to those of the finest hotels and hospitals.

Analyze the important manner in which clean, sanitary washrooms aid you:

1. By maintaining high health standards, lowering absenteeism due to illness.
2. By making each individual take pride in cleanliness, which carries over in his attitude toward the plant generally. This will eventually help improve health and safety standards throughout your organization.
3. By providing a highly impor-

ON SCHEDULE!

tant morale factor, showing management's awareness of its responsibilities for employees' welfare.

If, however, washroom sanitation is lax, even the most beautiful fixtures available will become unsightly and employees will be discouraged from making use of them, defeating the very purpose of the installation.

It pays handsome dividends to supply your maintenance department with as many mechanical devices and chemical compounds as is practicable. Floor machines, adequate manual equipment and the finest chemical compounds available will actually save expenses over a period of time. Bear in mind that labor costs are over 90 per cent of all housekeeping expenses. Any item which saves time, saves you money.

If you have numerous restrooms, it is a good policy to assign individual men to do specific jobs, rather than trying to have each man perform all of the phases involved. Where possible maintenance needs should be administered at the end of each working day, so that a clean washroom is ready when employees arrive. This combination of specialization and mechanized cleaning will save up to 35 percent in labor costs. There will be no work interruptions, and a definite schedule can be maintained.

Along with newly developed ideas, have come a host of improved ingredients and formulas, painstakingly tried and tested in the field as well as in the laboratory.

Each washroom should be well ventilated, adequately lighted and have mirrored surfaces available.

Floor Maintenance

Floor surfaces, which take so much abuse, should be swept at regular intervals during the day, mopped with a neutral cleaner every evening and given a thorough scrubbing weekly. Every floor cleaning job presents a particular problem, depending upon the dirt to be removed and surface involved. For positive cleaning results your product should combine a good cleaning soap and three detergents—one to act as a wetting agent, one with lifting power to bring the dirt to the surface, and the third, an agent to hold that dirt in suspension so that it may be washed away and not permitted to settle back onto the surface.

When the residue is washed away, the original brightness and luster is restored. Application may be made with mop, sprayer or machine, in varied solutions for greatest efficiency, depending upon the area to be cleaned. It will leave no scum, film, streaks or white spots of any kind. Avoid the use of products containing caustic soda, acids, lye, abrasives—or insoluble fillers. A properly sealed water-proof floor surface greatly decreases the possibilities of bacteria and insect contamination by deeply penetrating surface pores and not permitting saturation by dirt, grime or dampness.

It is advisable to add a mild, pleasant scented germicide to the cleaning solution. This disinfectant will kill the vegetated forms of disease germs. Synthetic phenol disinfectants are replacing coal tar and pine oil products. The phenol coefficient of a disinfectant or germicide determines the bacteria killing power of the ingredients. Carbolic acid is used as the gauge. Thus a product with a phenol coefficient of 5, is 5 times more effective in destroying bacteria, than pure carbolic acid. This type of disinfectant, should also be used in periodic wall washing.

Porcelain Cleaning

In cleaning porcelain fixtures, such as commodes, urinals and wash stands, a product must be used which is not injurious to either porcelain, pipes or plumbing. A rule of thumb test commonly used with

for the effective cleaning and degreasing

of ELECTRIC MOTORS · POWER GENERATORS · CONDENSORS and COILS · STARTERS · PRODUCTION EQUIPMENT · AIR CONDITIONING MOTORS, etc., and all areas in the plant where greasy, oily dirt has to be removed.

REPLACE CARBON TETRA-CHLORIDE use . . . **FINE ORGANICS**

'SAFE-TEE' SOLVENT

F.O.-128

and AVOID THESE HARMFUL EFFECTS ON PERSONNEL

nausea, vomiting, abdominal cramps, headaches, dizziness, jaundice, loss of memory

and the more harmful effects on the lungs and the liver.

ADVANTAGES OF F.O.-128

1. High flash point makes the use of this solvent desirable wherever fire hazards prevail.
2. Grease and oil removed without damage to surfaces.
3. Minimized toxicity — 15 times more safe than carbon tetrachloride.
4. Zero residue on drying.
5. Can be used as spray.
6. Recommended by Safety Engineers and Industrial Hygienists.

ORDER 54 gal. DRUM at 1.44 per gal.

Write for information on our other Safe-Tee Solvents—and the name of your nearest F.O. representative.

Ask for our Technical Bulletin "How To Clean Electric Motors".

FINE ORGANICS, inc.
211b East 19th Street
New York 3, N. Y.

(For further details, use Key # E-24 on page 77)

powders is to rub a pinch between two pieces of glass; if it scratches them it will scratch porcelain. All fixture surfaces should be cleaned every day with one of the liquids or powders available for this purpose. This procedure will remove lime stains, rust spots and discoloration from the porcelain surfaces, as well as sanitize them. A new liquid cleaner has been developed, packed with its own specially developed mop, and designed primarily for bowls and urinals. About once a week, pour a small quantity of this fluid into the bowl and permit it to stand for several hours or, if possible, over night. This will remove stains and incrustations that accumulate in the trap or outlet. After using any cleaner, always wash or flush the surface with clear water.

For brass, copper, chrome and other metal pipes and hardware there are now available liquid solutions, ready for use, which produce a high polish with little effort. Do not use any solution which contains grease or acids as they tend to break down the highly polished finishes. In employing a liquid compound, keep a soft cloth moist with polish, apply to the fixture, allowing a film to remain which dries to a powdery substance, then rub briskly with a clean soft cloth or chamois until the desired finish is obtained.

Pipe Cleaning

Clogged pipes which overflow can waste hours of labor and months of successful conversion. Almost every maintenance man has the required materials and the "know how" to place a bad pipe in operating condition, but very few take proper precautionary measures. Most blocked pipes are caused by an accumulation of refuse over a period of time. It is the proverbial case of one stick breaking easily but a group of them defying all pressure. Constant maintenance is a simple operation that will eliminate this grief and trouble. One recent development now available is a liquid compound which opens clogged pipes and drains by dissolving paper, gummed grease and other waste. Periodic use of this compound will not allow that gradual accumulation to build up to the danger point.

Employee Grievances

Use of employee questionnaires has brought to light pet grievances which, though easily overcome, are time and again ignored. An inadequate supply, and an inferior grade of hand soap is a constant threat to the general cooperation needed for clean sanitation facilities. Top quality liquid soaps containing properly blended vegetable oils (preferably pure cocoanut oil), potash and high soap solids contents, make good hand cleansers. The soap should be pleasantly scented, and lather freely in any type of water. It should not chap or irritate the skin in any way, or become rancid.

The important factor to look for in a liquid soap is the anhydrous content, that is, the dry soap bases. Do not confuse anhydrous with soap solids content which is always proportionately higher and includes a percentage of moisture. An 18 to 20 percent anhydrous liquid soap is economical for industrial plants. Five-thousand hand washes are obtained from one gallon of 18 to 20 per cent anhydrous soap. This figure is based on the average valve in the average dispenser, plus a liberal allowance for waste. A concentrated product requires the use of distilled water for proper blending. A new development is a soap containing antiseptic qualities so effective, that a 3 minute wash is said to take the place of a 30 minute surgical scrub-up and the alcohol rinse normally used in hospitals.

From a psychological standpoint, a soap which contains high lathering potentialities is more desirable than one which will clean just as well, without the profuse suds. There is a great tendency to believe that a soap which lathers heavily has greater cleansing properties, and it is difficult to overcome this prejudice. Improvements are constantly being made in existing cleaning

(Continued on page 56)

Maintenance man holds the large radioactive static eliminator. Bar is handled with special leaded gloves and held by ends to reduce body radiation. Note combustible gas alarm.

Safety engineer points to the location of the static eliminator and sign, warning employees of radioactivity in area.

WORK SAFELY WITH RADIUM

by HAROLD BAVLEY, Engineer
Division of Occupational Hygiene
Massachusetts Department of Labor and Industries

AN extremely large source of radium for the prevention of static fires during the application of varnish coating is in use at the flooring plant of Bird & Son in Norwood, Massachusetts.

The ionizing power of the alpha rays emitted by the radium enables the air near the static producer to conduct the electric charge away before a spark is formed which might ignite the flammable solvent vapors.

This giant-sized static eliminator has the appearance of a long flat metal bar. It requires no wires for grounding, no high voltage electricity, no metallic tracers, no grounded metal combs or tinsel. The unit is installed by bolting it to the machine frame 1¼ inches from the coated material. It is several feet from the off-running side of the coating rolls. No redesign or major changes were necessary for this installation. It is estimated that the radium content of the eliminator need not be renewed for 16 hundred years. The source, containing 55 hundred micrograms of radium, is sealed to a flat aluminum bar (110 inches by ¼ inch) with a thin gold foil. The foil covering permits the desirable alpha rays to pass, but

(Continued next page)

restricts the passage of radon gas.

The source emits, in addition to alpha particles, beta and gamma radiations. Since the effective range of the alpha particles is only about 3 inches in air, the only potential hazard to the employees during normal operation is from the beta and gamma.

In cooperation with the Massachusetts Division of Occupational Hygiene, the plant engineer and the safety engineer of Bird & Son have taken the necessary precautions to safeguard the machine operators from radiation. The static eliminator is mounted face downward 6 feet above the floor at the intake of the tunnel dryer. A ⅛ inch thick steel trough is installed directly below the static eliminator and shields the radiation emitted by this unit. The heavy metal rollers in front of the operator's location afford additional shielding.

A mirror, extending the full width of the coating machine and mounted in an angle iron frame, is located directly in front of the trough housing the static eliminator. This mirror is used by the employees to check the proper coating on the moving material. This mirror further reduces radiation so that even at head level it is negligible. Warning signs are posted conspicuously on each side of the machine, and employees have been instructed about the potential hazard in using radium.

While cleaning the rollers employees are subject to a small amount of radiation. During longer maintenance periods, such as the repair and adjustment of the coating machine, the static eliminator is removed and stored in a safe location. The maintenance job is usually performed by 2 men, each equipped with a pair of leaded gloves of the type used by physicians in fluoroscopic work.

For a period of 3 months, the men will be monitored by a film badge service. The maximum allowable dosage is 6.25 milliroentgens per hour, or 0.3 roentgens per week, and at no place in the work area is this amount even approached. To date the medical records show that all employees at this machine have received only a negligible quantity of radiation. Each employee has been given a complete medical examination consisting of a medical history, physical examination, and complete blood count. The medical examination records are kept on file. Periodically at six-month intervals, each employee is given a repeat blood count to detect any harmful routine exposure.

Careful installation, watchful supervision, safe operation and a thorough-going medical program have combined to show that a potentially dangerous material may be used safely, in production.

For detailed descriptions of radiation protective equipment see pages 134–202 and 283–302 of "Best's Safety and Maintenance Directory" 1952–53 edition.

Pictures by courtesy of Bird and Son Company.

NOW... a Non-Slip Glove that's Really Ventilated!

Also available as R-46, fully coated with natural rubber.

Model R-45

Hood Glove models R-45 and R-46 have a non-slip finish . . . yet they are far more flexible than ordinary non-slip gloves.

Ideal for use in any occupation or industry which requires a rough-surfaced glove to assure a firm grip in handling slippery, bulky objects.

Hood makes a complete line of industrial rubber and plastic gloves that will help keep your safety standards high.

Write today for our new illustrated catalog, featuring the Hood Glove Guide, which shows you "how to choose the RIGHT glove for EACH job".

HOOD RUBBER CO., Watertown, Mass.

(For further details, use Key # E-25 on free Inquiry Card on page 77)

The Industrial Nurse

Editor
Rosamond J. Webster
R.N., A.M., Ph.D.

National League For Nursing Holds First Convention June 22

FORMING an Interdivisional Council on Occupational Health Nursing will be one of the major subjects considered at the first Convention of the National League for Nursing, to be held in Cleveland, Ohio, June 22–26.

A panel discussion on "The Place of Industrial Nursing in the Total Nursing Picture" is scheduled for the convention's opening day. "An Accident Happens to Sam," a film project of the Industrial Nurses' Section of the National Safety Council, will be shown. Dr. Jean S. Felton, medical director, Oak Ridge National Laboratory, will discuss protecting workers' health in plants handling atomic energy. Dr. Alan Gregg, vice president of the Rockefeller Foundation will give the keynote address on "The Opportunities Before Us."

Several meetings will be held on public health nursing. Other sessions have been planned around psychiatric, tuberculosis, and poliomyelitis nursing, nurse recruitment, and nursing education. An informal dinner is scheduled for Tuesday evening. Special interest groups are planning small breakfast and luncheon meetings throughout the week.

Registration is 5 dollars for National League for Nursing members, 6 dollars for non-members, and 1 dollar for student nurses. Additional information about the Convention can be obtained by writing to National League for Nursing, 2 Park Avenue, New York 16, N. Y. Advance registration will end May 16.

Employee Health Education

AN experienced industrial nurse on the consultant staff of a large insurance company writes that the amount of health education that can be provided in a small plant depends on whether or not there is an in-plant health service with an industrial physician and nurse.

Health education can begin with the health history and preplacement physical examination. This provides the opportunity, if sufficient time is allowed, to review the medical findings and discuss the total situation. If necessary, the employee is both encouraged and advised how and where to have further examinations made and defects treated or corrected. The facilities of the plant-health services are described to him and desirable health and working habits are emphasized.

The friendly, though at the same time, professional interest of the physician and nurse is an essential ingredient of the educational effort. They can make the new worker feel "at home" and give him the necessary encouragement to come to them when a health problem requires advice and attention. Emergency treatments present another excellent opportunity for health education.

Various health education materials are available through insurance companies, as well as through national, state and local governmental and voluntary health organizations. These materials should be available in the waiting rooms, and in the physicians' and nurses' offices for full distribution. Many other opportunities are available to the industrial nurse, and the physician too, to further the health of workers through various educational measures. These can be a part of housekeeping, safety, sanitary and other activities. There is much to do in health education and no opportunity to further it should be missed.

Dermatitis

RECORDS of workmen's compensation boards in many parts of the country indicate that skin diseases represent a major problem in industry. A report of the U. S. Public Health Service, Division of Occupational Health, notes that approximately 30 percent of dermatitis in industry is caused by petroleum and its products, and alkalies. In addition to numerous other chemicals used in industry that are skin irritants, new chemicals which may be skin irritants are constantly being introduced. Increasing use of radioactive materials is also presenting another skin hazard. Only a small percentage of skin diseases in industry have been found to be due to allergy. Most come from exposure

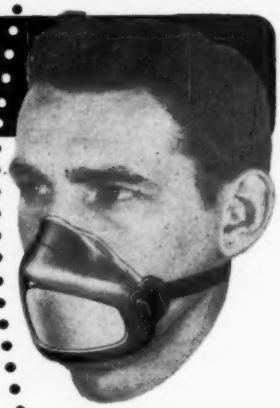
to materials which are primary irritants. Almost any worker handling these substances or exposed to them in some way may be affected.

These findings place a responsibility upon industry, upon safety engineers and medical department personnel. Skin diseases in industry can be controlled by personal and environmental hygienic measures such as frequent washing, the use of protective clothing and the application of suitable engineering measures to control dusts. For effective prevention worker education must be instituted by the plant physician and industrial nurse with the cooperation of the safety engineer, if a plant has one.

The problem of industrial dermatoses is particularly severe in small plants, where 70 percent of workers are employed. It is these plants which often do not provide necessary medical or safety engineering services. Most large plants turn to their staff of chemists, engineers and physicians to solve specific problems. Small plants find it difficult to imitate this procedure. However, they can begin programs which emphasize the simplest and most lethal weapon against dermatitis—cleanliness. Protective equipment which will pay for itself in a relatively short time is available, and it may be a simple matter to substitute a non-irritating chemical for an irritating one. Concentrated interest and effort are the ingredients most needed to solve the skin disease problem.

Now Better * than ever

FLEX-A-FOAM FILTER MASKS



For Safe, Economical Dust Protection

NEWLY designed for better-than-ever comfort and efficiency. It's easier to breathe through and talk through than an ordinary pocket handkerchief — yet filters nuisance dust particles as small as 1/25000 of an inch!

• Economical — Only Flex-a-Foam has long-lasting washable filter that outlasts throw-away type by more than 100 to 1. Filter savings alone more than pay total cost of mask.

• Comfortable — Self-adjusting to every face size. Can be worn with goggles or spectacles.

• Simple — Only four sturdy, long-lasting parts — all interlocking — all unconditionally guaranteed.

* *New frame design positively locks out air leaks, permits speedy removal of filter for cleaning.*

Dust Protection your workers will welcome and *Wear*

FLEX-A-FOAM® FILTER MASK

SAMPLE STILL ONLY $1.40 POSTPAID

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

(For further details, use Key # E-26 on free Inquiry Card on page 77)

"Compensation Neurosis"

THERE has been much discussion of so-called "compensation neurosis." Varied reports seem to imply that a neurosis following an occupational injury may readily clear up once adequate workmen's compensation payments have been made. A professor of psychology, writing in the British Medical Journal, states that the neuroses which follow an injury do not in any way differ from those met daily in psychiatric clinics, where no question of compensation arises.

The only problem is that of treatment. They are well-defined syndromes of varying degrees of severity; and, while there may be overlapping symptoms complicating the diagnoses, they have been classified under well-recognized headings of neurasthenia, anxiety states, obsessional states, and hysteria. In attempting to assess the complaint and its validity, the examining physician is faced with the possibility of simulation. It is often quite difficult to deal with such a situation, though many who attempt to create a false state of affairs are often inclined to overplay their actions, and thus give themselves away. The malingerer however, can be quite clever; and, as a rule, he can only be caught in the act by the careful correlation of signs and symptoms by a psychiatrist of considerable experience. Accurate assessment of the nature of the neurosis is one of the best guards against malingering.

Some persons have a predisposition to mental illness and neuroses. It consists in a susceptibility to disease which remains latent under normal conditions but may be activated by exceptional stress. All industrial nurses, with some experience, come to know the troublesome, the worrying, the obsessed workers who come to them for advice, help or medication. They may have a high absentee rating, are frequent visitors to the medical department, and can otherwise make themselves quite obvious even in an organization with a large staff. They present many personnel problems but require understanding.

Severely injured workers may actually feel relieved or improved when an adequate compensation settlement is made.

Medical Service—Does It Pay?

STUDIES made in small plants in Connecticut, show that medical service pays comparatively large dividends. Here are some of the findings: One company with over 600 employees reported a reduction of 50 percent in eye cases; a reduction of more than 50 percent between 1945 and 1951 in accident frequency, absenteeism, and employee turnover; a 30 percent reduction between 1947 and 1948 in lost time from all causes and a resulting production increase of nearly 30,000 dollars. There was a 55 percent reduction in

FIRST CHOICE
for
FIRST AID
...for treating
BURNS *and* MINOR INJURIES

'Vaseline' Sterile Petrolatum Gauze Dressings are preferred by most medical authorities and used by the Armed Services, fire departments, rescue squads, disaster units, and for first aid in industry, schools, camps, athletics... as the safe, soothing, and simple wound covering of choice.

Get a stock today at any drug or surgical supply store

No. 1 size—3" x 36" Strips
No. 2 size—3" x 18" Strips
No. 3 size—6" x 36" Strips

Heat-sealed in handy, compact foil-envelopes

Always Sterile... Always Ready

CHESEBROUGH MFG. CO., CONS'D, NEW YORK 4, N. Y.
Professional Products Division

Vaseline®
TRADE-MARK
Sterile Petrolatum Gauze Dressings

(For further details, use Key # E-27 on free Inquiry Card on page 77)

lost time between 1945, the year before the program started, and 1948.

Another company with 500 to 600 employees reported a reduction of 35 percent in the frequency rates of occupational cases, but no reduction in the severity rates. There was a reduction in physicians' services of 1,900 dollars. In 1947, before joining a group medical plan the company paid 4,934 dollars for medical services; after joining the plan, its share of the physician's salary plus fees to outside physicians amounted to 3,030 dollars. During 1948 an estimated possible loss of 1,200 hours of employees' time for treatment outside the plant was eliminated.

Group Plans

Physicians participating in the planned services reported that case findings and referral have been outstanding values of group medical service. Each month a significant number of patients are sent to family physicians or community agencies, and the patient is urged by the industrial physician and nurse to follow through with necessary treatment. Liaison is maintained with the family physician.

Various plans now in effect in various parts of the country are adequately dealt with in a Public Health Service publication entitled "Small Plant Health and Medical Programs." It is available from the U. S. Government Printing Office, Washington, D. C. for 50 cents. It is well worth owning by industrial nurses.

New Hazards

RAPID industrialization is taking place in the Western states. As a result many new occupational health hazards are being introduced. Reports indicate that labor and industry are alert to the problems being posed by new chemical hazards. They are prepared to work with public health agencies in developing programs which will conserve the already short labor supply, and which can ease the expense of workmen's compensation by protecting the health of workers through well-informed preventive programs.

Experienced industrial hygienists, safety engineers, industrial physicians and industrial nurses have long recognized that the prevention of occupational diseases just as the prevention of industrial injuries, is more than a one-person job. These professional men and woman can be alert, informed and active in their prevention programs and attitudes. However, unless the workers are fully aware of the hazards, and are prepared to cooperate with the people assigned to protect their health and safety, much honest effort will be wasted.

However, to blame workers alone for a high incidence of occupational diseases, and a high industrial accident rate, is an unrealistic approach to the problem. Alertness of informed supervisory personnel, as well as positive action by those assigned to health maintenance and

accident prevention will go a long way in achieving desirable results. New chemicals will continue to be introduced into industry. Their health hazards, whether potential or otherwise, should be known before they produce an epidemic of illnesses.

Psychology of Older People

THE New York State Joint Legislative Committee on problems of the aging has published a comprehensive report on the problems faced by older people. One of the phases reported upon is the psychological reactions of older people. One of the things found in the study is that some individuals, finding they need glasses, have some difficulty in hearing, or seem to have slowed up in their physical reactions, think of quitting. They believe that all of the declines that take place are associated with declines in intellectual ability and in the ability to learn.

A professor of psychology who has spent over 20 years in studying these older people states that in this regard they are wrong. Studies he carried out indicate that intellectual power, in and of itself, does not change from about 20 to beyond 60. In some so-called intellectual abilities there is even a slight gain. In the handling of information and in vocabulary control there is no loss; indeed, there is a slight gain from the twenties through the middle sixties.

Experiments were carried out in teaching older people certain skills of use in industry. The finding was that they could acquire various practical skills. However, when they failed to do so, the initial difficulty rested in their attitudes rather than in a lack of inherent ability to learn based on age. In trying to change attitudes and thus increase skills much resistance was encountered among a segment of those subject to studies. No matter what was done to stimulate favorable reactions, the tendency toward the conservative attitude persisted in this group. Those to whom the hiring of older workers, and keeping them in functioning well-being are industrial problems, are advised to read this excellent report. It is known as Legislative Document (1952) No. 35.

News from Europe

INDUSTRIAL hygiene programs have a long history in Western Europe. However, industrial nursing services have apparently had wider development in the United States. A recently held conference in the Netherlands high-lighted the fact that industrial health practices differ markedly in this country from those in Europe.

For instance, there is a law in France requiring every employer having 200 or more workers to furnish a full-time physician and nurse; for plants employing under 200 workers, part-time services must be provided. The eight leading medical schools in France are conducting identical training courses for physicians who attend two days a week for the entire school year. Training is given in organization of in-plant medical services, job analyses, physical examinations, detection of chronic diseases, job placement and other pertinent subjects. Since private physicians get an increasing number of early referrals from plant physicians, because no treatment is given in the plants, the medical profession is gradually accepting this program as another phase of case-finding in personal preventive medicine.

In Norway there is no compulsory law for in-plant health services, but close to complete coverage is being achieved on a voluntary basis. In contrast to the frequently meager record-keeping practices in this country, the development of uniform health records in Norway is worthy of note. In Sweden, as in the United States, one problem is to get part-time physicians for the small plant. Local county and city health offices are serving a number of the small plants on a part-time basis. The health insurance plans in effect in Europe have played an important part in the overall picture. Many questions are involved in the application of similar legislation in this country, and the trend seems to be primarily in the area of the extension of voluntary plans.

SAFETY EQUIPMENT FOR ALL INDUSTRIES

Gets your Messages across!

Inside lighting flashes approximately fifteen times a minute, bringing life to safety posters, plant messages, photographs and other material. Carries two separate messages that may be read from a wide angle . . .

Finished in bright green enamel. Width 14¼", depth 8", height 12¼". Accommodates sheets up to size 8½" x 11½".

WRITE FOR BULLETIN NO. 81

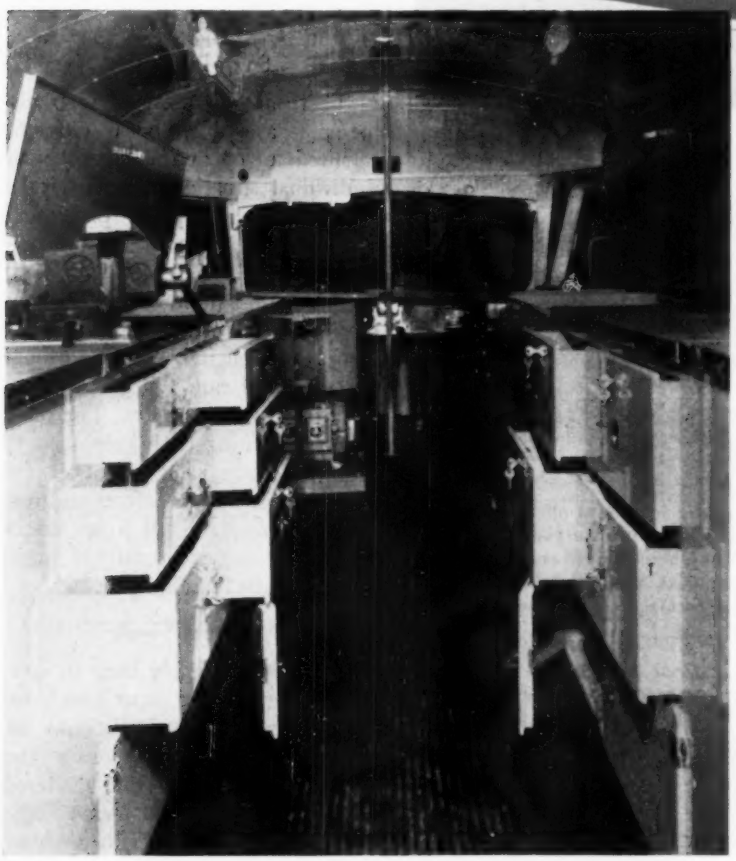
IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2880 N. FOURTH ST. PHILADELPHIA 33, PA.
(For further details, use Key # E-28 on free Inquiry Card on page 77)

FIRST AID—FAST!

FEATURE

Second in the series of articles on First Aid. Next feature in June.

READY TO GO—Mobile safety station prepares to take the road. Note body, bus-designed to permit first-aid workers to perform duties without cramp or stooping.



INTERIOR VIEW—Note built-in cabinets and compartments, non-skid flooring, lighting and motor-driven oxygen pump behind driver's seat for refilling rescue apparatus.

FOUR "safety stations on wheels," ready to roll at an instant's notice, now spearhead the mine rescue organization of Illinois. The Department of Mines and Minerals has just added its fourth such unit—equipped with every emergency device and life-saving instrument that might be needed—and located at strategic points where trained men maintain a 24-hour vigil.

The first-aid mobile stations are designed to serve 5 purposes.

1. Mobile rescue stations. They are always alert and equipped to rush to the scene of a mine disaster anywhere in the state. They carry complete equipment to outfit two 6-man rescue teams. Their equipment includes oxygen breathing apparatus, gas masks, protective hats, and electric miners' cap lamps.
2. Emergency hospital and ambulance. First-aid equipment,

First Aid—Fast!

(Continued from page 55)

inhalators, and stretchers are carried.

3. A roving classroom in which first aid and mine rescue technique are taught.
4. A portable laboratory for the testing of mine air, rock dust samples and safety lamps.
5. A maintenance shop carrying tools for repairing all equipment, as well as a battery charger for the electric cap lamps and an oxygen pump for filling oxygen cylinders.

The mobile safety station has a roomy school bus-type body on a truck chassis. Flashers, sirens and over-size heaters are standard equipment.

Picture by courtesy of Mine Safety Appliances Co.

FAULTLESS FLOORS CAN BE *yours*

with NS 20

SAFETY FLOOR FINISH

Do you want your floors to be absolutely safe for use at all times? We think you do. The NS 20 Safety Floor Program will give you the safest floors possible, floors which are, at all times, beautiful, floors which will not scuff, and hold soil, and yet, floors which are maintained at the lowest cost per square foot ever. We sincerely urge that you fill out, and mail the coupon for full information.

HADCO CORPORATION

GUARANTEED PRODUCT

HADCO CORPORATION, Dep't SMP 5
2707 Detroit Ave., Cleveland 13, Ohio.
Gentlemen: Please rush full information about NS 20 SAFETY FLOOR FINISH PROGRAM
Name _____
Address _____
City _____ State _____
Per _____

(For further details, use Key # E-29 on free Inquiry Card on page 77)

W. Graham Cole

A WELL-KNOWN safety leader, W. Graham Cole, died suddenly in New York on April 12th.

Mr. Cole, 63, was assistant secretary of the Metropolitan Life Insurance Company, having been associated with that organization for more than 25 years and was head of its safety department.

He had been active in the National Safety Council and the Greater New York Council.

As a member of national, state and city traffic safety committees, Mr. Cole was considered an authority on accident prevention on the highway as well as off the job safety.

Clean Washrooms

(Continued from page 48)

products and it is to your advantage to keep abreast of them.

Soap Dispensers

There are a variety of soap dispensers available, with different methods of operation to meet your individual situation, whether it be the gravity system for dispensing liquid soaps through a series of outlets, or the simple "push feed" wall type soap dispenser. Every type has its individual advantages and drawbacks, but generally speaking proper cleaning and care will provide consistently good operation. The most important thing is to keep soap in the dispensers, and not wait for them to run dry before refilling. Soap supplies and all paper stocks should be inspected daily if washrooms are to function properly.

Sanitary Towels

You have probably been in lavatories in which the paper towels are all used, or in which the tiny receptacle used for disposing the towels has overflowed and scattered them over the nearby area. These situations are easily remedied by watchfulness and cooperation, and the installation of a 3-foot disposal

basket in place of the small waste can. My own pet peeve is the old-fashioned roller towels still in use in some rest rooms. This has been one of the worst germ carriers ever permitted widespread use. However, it is now outlawed in several states, and recent progress made by manufacturers of paper towels and towel cabinets is quickly wiping out this unsanitary method.

Odors

Probably the most aggravating feeling in the world, is opening a restroom door and figuratively being hit by the accumulated odors. There are various methods of combatting this situation—deodorant blocs, deodorant crystals and spray deodorants—to name the most popular. A good spray deodorant is a very effective method of deodorizing. This spray attacks and destroys the causes of offensive odors at their source. It is also available with a newly developed ingredient added, which destroys bacteria in the air, thus serving a dual purpose. Deodorant blocs are most effective when used in urinals and toilet bowls. However, care must be taken in acquiring the proper bloc for your particular situation.

Other Supplies

Brushes should be used as designed—for one specific purpose only. Any other use tends to break down their practical value for health and safety. A special sink for the janitor's use in filling mop buckets, etc., should be available in each washroom, so that wash bowls are restricted to personnel use only. If a small wheeled supply cart is made available to carry all the janitor's equipment, time and expense will be saved.

Follow Directions

Read all labels thoroughly, and follow directions implicitly. The manufacturer has constantly tried and tested different methods of application and use. His directions will give you the best possible results at the least expense, in the shortest possible time.

There is one idea which cannot be overstressed. Washroom sanitation is not just a matter of correcting an existing condition, but rather a constant endeavor to have clean healthy facilities at all times, free from "accidents" and an endless series of temporary difficulties.

If at all possible, a set schedule of regular cleaning procedures should be established. You will receive your workers cooperation in a very short time by showing what you are willing to do for their benefit.

Remember—clean healthful washrooms are the cheapest protection you can possibly buy to counteract disease, illness and work stoppage.

Picture by courtesy of Bradley Washfountain Co.

For detailed descriptions of washroom sanitation products see pages 271–282 of "Best's Safety and Maintenance Directory," 1952–53 edition.

Be Fresh
Stay Fresh
wear a DUPOR
Water-Cooled
SMOKE MASK
Equipped with "Nod & Shake"
Fog-Proof, Gas-Tight Goggles
For combined eye and lung protection of painters, foundrymen, smelters, oil refiners, chemists, firemen, etc. Sponge filter, soaked in water before wearing, keeps out paint spray, smoke, fumes, dusts; provides cool, clean air at every breath. Air-tight goggles give absolute eye protection. Goggles are fog-proof too.
Sample sent $5.00 pp
wear a
DUPOR No. 20
Water-Cooled Respirator
Double sponges dipped in water before wearing provide cool breathing even under hot, smoky conditions. Recommended for use of workers in paint shops, foundries, steel mills, oil refineries, chemists, firemen, etc. Face mask is of rubber, equipped with DUPOR "controlled breathing" valves. Wearer has a panorama view with no blind spots. Glasses or goggles can be worn with unit.
Sample sent $2.50 pp
For the best in eye protection get H. S. Cover's Gas-Tight, Fog-Proof Goggles. . $2.00 pp.
H. S. COVER, South Bend, Ind.
(For further details, use Key # E-30 on free Inquiry Card on page 77)

One way
to encourage
employees to
wear safety
shoes is to give
them shoes
they can wear
anywhere
after hours.

Vul-Cork and
Vul-Cork
Neoprene . . .
besides all
their safety
characteristics
. . . never get
ragged, never
slop over.
Vul-Cork won't
mark floors.

specify
VUL-CORK
and
VUL-CORK
NEOPRENE
SAFETY SOLES

Anti-Slip – won't pick up chips
. . . light, resilient, flexible.
Vul-Cork Neoprene resists oil,
grease, acids, hot metals.
Write for samples.

CAMBRIDGE RUBBER CO.
Vul-Cork Div., Taneytown, Md.
. . . makers of Vul-Cork®

(For further details, use Key # E-31 on page 77)

INSIDE THE TRADE

Crouse-Hinds Plant Expansion

A BUILDING expansion program, started in 1946, which will add a total of 180,000 square feet to present manufacturing facilities of the Crouse-Hinds Company, Syracuse, New York, will be completed this year, according to a company spokesman. The central New York firm manufactures industrial electrical fittings, explosion-proof electrical equipment, floodlights, airport lighting and traffic signals.

Hillyard Appoints

WILLIAM A. SCHMALTZ, Sales Manager of the Eastern Division of Hillyard Chemical Company of St. Joseph, Missouri, has been appointed National Advertising Manager for the company. He succeeds Jerome V. Hillyard, now Purchasing Agent of Hillyard Chemical Company and Assistant to the President, Robert B. Hillyard.

Mr. Schmaltz joined the Hillyard Chemical Company, makers of quality floor treatments, sanitation and maintenance products in 1929. Since then, except for a period from 1943 to 1945, when he served with the U. S. Army Engineers based in France, he has worked in every phase of the company's operations.

Vacuum Cleaner Line for Multi-Clean Products

THE Multi-Clean Products, Incorporated, Saint Paul, Minnesota, has completed negotiations for the purchase of the manufacturing facilities of the Industrial Vacuum Cleaner Department of the General Electric Company. The transaction includes all of the production dies, patterns, fixtures, and inventory. While the construction of the various models will be the same, they will be distributed under a new trade name.

A new factory is under construction in Saint Paul, Minnesota, where the production of the industrial line of vacuum cleaners will begin at an early date.

Nuclear Firm Changes Name

NUCLEAR Instrument & Chemical Corporation, Chicago, has announced that future advertising and sales promotion will identify the company as "Nuclear-Chicago." This step is being taken because of the large number of firms having names similar to the corporate title, which has, in some instances, caused confusion among users of the company's products.

Nuclear-Chicago is engaged in manufacture and sale of instruments and accessories for use in measuring radioactivity. Since Atomic Energy Commission release of radioactive isotopes for medical and industrial uses, Nuclear-Chicago has manufactured and sold a wide range of radiochemicals.

ASA Elects Chairman

EDWARD R. GRANNISS has been elected chairman of the Safety Standards Board of the American Standards Association.

The ASA Safety Standards Board, whose name has recently been changed from Safety Code Correlating Committee, is the top technical group in ASA which supervises and correlates the standards work in the safety field. Mr. Granniss has been active in safety work for nearly 30 years. He has held positions with insurance companies, the National Safety Council, the National Conservation Bureau, and as a faculty member of New York University.

Changes at Ohio Chemical & Surgical Equipment Co.

THREE organizational changes at Ohio Chemical & Surgical Equipment Co. (A division of Air Reduction Company, Inc.) have been announced by W. A. Lunger, Vice President in charge of Sales.

Under the revised plan, R. H. McElrath, formerly manager of Heidbrink Sales, will be assistant to Vice President—Sales. E. P. Lindsey, formerly Manager of Scanlan-Morris Sales, will be Manager of Gas and Heidbrink Sales, and P. L. Engler, formerly Manager of Technical Sales, will be Manager of Scanlan-Morris Sales.

John B. Moore Corp. Appoints

APPOINTMENTS as sales representatives for industrial solvents were announced by John B. Moore, president, as follows: For eastern New York State, New York City and Long Island, the Caldwell Chemical Company, 441 Lexington Avenue, New York, N. Y. For Kansas, Oklahoma and Western Missouri, the James B. Schooler Company, 2008 Baltimore Street, Kansas City, Missouri. Mr. I. Q. Sarlin has been transferred from the New York City territory to the home office as staff engineer. Mr. Sheldon Beigel has joined the company's west coast sales staff at Los Angeles, California.

MSA Executive Gets Management Award

JOHN T. RYAN, JR., executive vice president, Mine Safety Appliances Company, has been awarded the Duquesne University Management Award "for leadership in management" at the third annual conference sponsored by the University's chapter of the Society for the Advancement of Management. Mr. Ryan also is president of the Callery Chemical Company, an MSA subsidiary, a director of MSA subsidiaries in Canada, Scotland and South Africa, and a director of several other U. S. firms, including Thomas A. Edison, Inc., Townsend Company and Ruud Manufacturing Company.

ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN

SEE PAGE 5

Group of RUEMELIN Fume Collectors Keeps Shop Clear of Welding Fumes

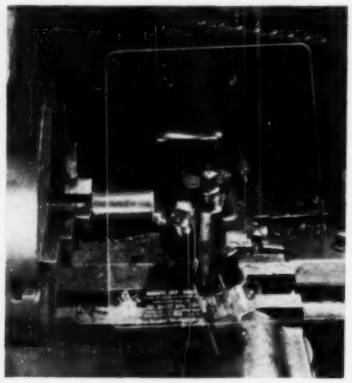
This well ventilated welding department is typical of hundreds of similar installations. Welding operators appreciate smoke and gas-free atmosphere. Thousands in service. Many repeat orders. Collecting fumes AT THE SOURCE with local exhaust hoods has proven most practical in operation. It is particularly helpful in winter months when doors and windows are closed. Write for Bulletin 37-D describing all types of Ruemelin Welding Fume Collectors.

RUEMELIN MFG. CO.

MFRS. & ENGRS. • SAND BLAST & DUST COLLECTING EQUIPMENT
3892 NORTH PALMER STREET • MILWAUKEE 12, WISCONSIN, U. S. A.

(For further details, use Key # E-32 on free Inquiry Card on page 77)

"You have to see danger in order to avoid it"



Just magnetically *grip* these handy . . . proven . . . tru-vision guards to any machine tool in your plant.

They stop the danger—at the source.

"It's a dilley"

Order today or write for literature

THE DILLEY MANUFACTURING CO.

1653 Ansel Rd., Cleveland 6, Ohio, USA

Refer to page 433—1952–53 Edition Best's Safety and Maintenance Directory

(For further details, use Key # E-33 on page 77)

AWARD EMBLEMS

SERVICE

Recognize your veteran employees—increase loyalty—reduce labor turnover. Show your appreciation for years of loyal service with a Metal Arts Service Award Emblem.

SAFETY

Fewer Accidents mean more manpower, less lost time. Encourage safety with our Safety Emblems. Emblems can be applied to tie clasps, money clips, lighters, etc.

QUOTA CLUB

Start a Quota Club and watch your sales increase. Your salesmen will be proud to earn the right to wear an emblem with your company name.

SUGGESTION

Augment your cash award with a distinctive emblem. Promote competition among your workers. Increase labor, material and method savings.

Also Identification Badges, Plaques, Name Plates, Trophies, Bronze Advertising Novelties, etc.

Write for Our Brochures

METAL ARTS CO., Inc.

742 Portland Ave. Dept. 13 Rochester 21, N.Y.

(For further details, use Key # E-34 on page 77)

Sahlin Engineering Appoints

FRANCIS J. SEHN, former Detroit district sales engineer for the Clearing Machine Corporation, has been appointed Vice President in Charge of Sales of the Sahlin Engineering Company, designers and manufacturers of power press unloading devices and other automation equipment.

General Scientific Equipment Company Appoints Pittsburgh Representative

GEORGE A. CIMIOTTI has been appointed representative for the General Scientific Equipment Co., Philadelphia. His headquarters will be 2109 Wightman Street, Pittsburgh 17, Pa.

Stonehouse Signs

J. W. STONEHOUSE has spent the better part of 84 years selling safety to American industry. His company, Stonehouse Signs Inc., of Denver, Colorado has grown from a one room, one man sign shop to an organization which sells accident prevention signs to mail order customers all over the nation. As a pioneer in this specialized sign field, Mr. Stonehouse designed the original octagonal traffic stop-sign.

Now, largely through his efforts, all accident prevention signs are standardized in shape and color. This standardization makes it easy for anyone to distinguish between the various kinds of hazards. For example, danger signs all have white backgrounds with the word DANGER in white letters in a red oval inside a black rectangular panel. The messages are always in black letters on the white background. CAUTION signs have a yellow background. INFORMATION signs can be any color except red or yellow. Safety First signs have the words SAFETY FIRST in white on a green panel. Directional signs always have a white background, with the arrow shown in white on a black panel.

Mr. Stonehouse started his business career sweeping out his father's sign shop. Later, his father advised him to go into business for himself. He rented a room and set himself up in the mail order sign business. A stroke of luck was the appearance of a pretty young lady who applied for a secretarial job. Within six months after she was hired she married the boss. This was the beginning of a marital and business partnership that is still going strong. In 1926 Mr. Stonehouse's health failed and, on doctor's advice, he turned over active control of the business to Mrs. Stonehouse. She became the president of the company, a post she holds today.

Mr. Stonehouse takes an active part in supervising the business. He credits much of his success to using good materials. The California Metal Enameling Company supplies the porcelain enamel signs for Stonehouse Signs.

Extinguisher Branch Moves

BADGER Fire Extinguisher Company announces that its New York offices have been moved to 20 Vesey Street, New York 7, New York. The company reports that the move is in line with its continued development. The new office will have improved facilities.

Changes At Equipment Firm

THREE organizational changes at Ohio Chemical & Surgical Equipment Co. (a division of Air Reduction Company, Inc.) have been announced by J. H. Humberstone, president. Dr. John Gilroy is the newly appointed Director of Research, E. F. Fullwood is now Manager of the Equipment Engineering Department, and H. L. Thomas is Manager of Gas Production and Distribution.

MATERIALS HANDLING NEWS

Materials Handling Show Sells Out Exhibit Space

ALL available display space at the National Materials Handling Exposition, to be held at Convention Hall, Philadelphia, May 18 to 22, has been assigned, announce Clapp & Poliak, Inc., New York, founders of the show. A total of 284 companies will exhibit.

The show will be the largest industrial capital goods exposition to be held anywhere in the country during 1953 and the largest ever held in Philadelphia. Visitors are expected from all parts of the United States and 40 foreign countries.

New Equipment

New models of materials handling equipment, valued at more than 10 million dollars, will be on display. Machines will include lift and fork trucks, both gasoline and battery powered, conveyors, both portable and permanent, hoists, monorails, cranes, tractors, trailers, hand trucks, stacking units, portable elevators, skids, pallets and their respective accessories.

Sponsor for the exposition will be the Material Handling Institute, organization of handling equipment manufacturers. The American Material Handling Society, composed of executives of companies which use mechanical handling systems, will conduct a conference concurrently with the show and will tender a banquet to visitors.

Conference Subjects

The conference, described as a "workshop" for executives in the field, will include discussions of general problems of materials handling in addition to seminars on: "Handling in Process," "Warehousing and Shipping," "Packaging for Improved Handling," "Bulk Handling," and "Requirements for Organized Study and Analysis."

Advance registration cards for the show, as well as hotel and conference information may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Materials Handling Traveling Clinic

THE first in a series of "Traveling Clinics" on material handling scheduled for 1953 by The Material Handling Institute will convene June 10 at the Hotel Statler in New York at the request of and in co-operation with the New York City and New Jersey Chapters, American Material Handling Society.

The purpose of the traveling clinics is to develop among users a better understanding of the correct application of material handling equipment to industry's most pressing problems. Prior to the all-day meeting of the first clinic, chapter members of AMHS are being polled to find out what are the most pressing problems of users in the New York area. The poll is under the direction of Cyanamid's A. K. Strong, chairman of the AMHS clinic arrangements committee.

The New York clinic will be divided into several separate panel discussions, meeting concurrently, according to general types of problems presented. Each panel will have a specialist in each general type of material handling activity. For example, one specialist on each panel will be prepared to advise on problems involving industrial gasoline trucks, electric trucks, powered hand trucks, storage batteries and accessories. Another expert will discuss overhead and monorail cranes and hoists. No. 3 will cover conveyors; No. 4, floor and hand trucks, wheel and caster equipment. No. 5 will talk about pallets, steel wire and strapping problems.

WHATEVER your safety needs may be, you can get the right garments from Wheeler to handle the protection job. The Wheeler line is complete, and Wheeler garments are tailored to fit the man as well as the need, giving the utmost in worker comfort, safety and job efficiency. A choice of heat, abrasive and acid resistant materials is available in any of the standard safety garments as well as special garments made to order.

Check with Wheeler for all your safety requirements. Send for your free catalog today.

GET WHEELER APPAREL FROM THESE NATIONALLY KNOWN DISTRIBUTORS

BIRMINGHAM Safety Eng. & Supply Co.	LOS ANGELES E. D. Bullard Company
BOISE Intermountain Equipment Co.	MILWAUKEE Protective Equipment Inc.
BOSTON Cutter, Wood & Sanderson Co.	NEW ORLEANS Guardian Safety Equipment Co.
BUFFALO The Elwood Company	NEW YORK W. S. Wilson Corporation
CHARLESTON, W. VA. Safety First Supply Company	PHILADELPHIA Guardian Safety Equipment Co.
CHICAGO Protective Equipment Inc.	PITTSBURGH Safety First Supply Company
CINCINNATI The E. A. Kinsey Company	PORTLAND Sanderson Safety Supply Co.
CLEVELAND Safety First Supply Company	ST. LOUIS Safety Incorporated
COLUMBUS, OHIO The E. A. Kinsey Company	ST. PAUL Continental Safety Equip., Inc.
DALLAS Engineering Supply Company	SALT LAKE CITY Industrial Supply Company
DAYTON, OHIO The E. A. Kinsey Company	SAN FRANCISCO E. D. Bullard Company
DETROIT The Chas. A. Strelinger Co.	SEATTLE Safety and Supply Company
HOUSTON Guardian Safety Equipment Co.	SPOKANE Spokane Safety Appliance Co.
INDIANAPOLIS The E. A. Kinsey Company	SYRACUSE Syracuse Supply Company
KANSAS CITY, MO. Safety Incorporated	TOLEDO Safety First Supply Company
KNOXVILLE, TENN. Safety Equip. Distributing Co.	WHEELING Safety First Supply Company

WHEELER PROTECTIVE APPAREL, INC.

236 West Huron Street
Chicago 10, Illinois

PROTECTIVE WHEELER APPAREL

WHEELER

"More Safety per Dollar"

(For further details, use Key # E-35 on page 77)

A NEW LIGHT ON THINGS

AN exhaust fan was installed in the wall of a laboratory to pull vapors out of the building. One man was working outside in the sunshine, placing shingles that had been removed for installation of the fan. He then returned to the laboratory and attached the last supporting bracket for the fan. The fan was started and everyone breathed easier . . . too easily. The worker placed his hands near the fan to determine the direction of the draft. His hands were closer to the fan than he thought, and before he could be warned by anyone else, his palms were lacerated as the fan blades cut into them. On the face of it, this man seems to have been careless and not paying attention to what he was doing to have caught his hands in the fan. But . . . he was watching what he was doing . . . the trouble was that his eyes had not become adjusted to the light indoors, after working outside on the white shingles in the sunshine. Wait until your eyes readjust to the light when you go in or out, before trying to do anything. The distances will fool you. This, by the way, is what accounts for falls in poorly lighted stairways.

FOR WANT OF A SHOE . . .

JUST a couple of simple, ordinary accidents . . . that could have been just as simply avoided . . . by wearing safety shoes. In the first one a pipefitter was tightening a nut with a socket wrench, when the wrench slipped and fell on his big toe. Result: a split bone and a badly bruised foot. The second accident occurred when a worker attempted to straighten a leaning stack of wheels. One of them fell over and injured his foot. Both men learned . . . the hard way . . . and are now wearing safety shoes. They could have learned the easy way . . . without injury.

A BOLT FROM THE BLUE

A BOLT left in an oil derrick fell to the floor while men were working at the base of the derrick. It missed 2 men by 5 feet. Since there were no markings to indicate that a nut had ever been screwed on it, apparently it was extra, new material. Whenever you're working above ground watch for loose material lying about. It could cause a fall, as it would if left lying about on the ground, but the fall would be a lot farther and more dangerous. Most important, it can fall by itself and hit someone on the ground. This little bolt could have killed a man if it had hit him on the head . . . unless he was wearing his safety hat!

PLENTY OF REASONS . . . BUT NO EXCUSE!

A REACTOR in a rubber plant was to be cleaned. It had been previously purged and gas tests were taken and showed a zero reading. An air hose was put into the reactor for additional ventilation and two workmen started cleaning. After a very short time, one workman complained of the tank smelling badly and they left the area. Two more workmen, after turning more air into the tank, went in and started to work. One of them remarked that he couldn't stand it and got out with the help of a standby fireman. The second man started out but fell back into the reactor. Another worker put on a fresh-air mask, tied a rope around his waist and entered the reactor. For some strange reason, he removed his mask and rope in assisting the other man and he too passed out. The rope and the mask were pulled out of the vessel, found to be in good condition, placed on another individual and he entered the vessel and managed to get the two unconscious men out. Neither responded to first-aid and were pronounced dead.

A check made following the accident showed that the air hose was attached to the inert gas line! Neither the valve nor the line were identified. The report showed seven contributing factors to the accident:

1. Failure of firemen and utility men to recognize proper valve for use of air.
2. Valves not color coded or labeled.
3. Practice of using plant air in vessels while men are working in them.
4. Lack of leadmen or supervisors to check job before signing fire or work permit.
5. Failure to follow plant safety regulation—issuing of fire and work permit.
6. Failure to follow plant safety regulation—provide for wearing safety belt and life line while working in the vessel.
7. Failure to follow plant safety regulation—provide for addition of air by means of a portable blower and opening reactor bottom.

Learning . . . . . the hard way

A USEFUL LIFE . . . CUT SHORT!

"I'M AN unidentified pair of safety glasses selected from the salvage box where dozens of others await my fate. My doom was fixed by neglect. Wait, I'm feeling sorry for myself and getting away from my story.

"About a year and a half ago, I was delivered to my owner in polished beauty and perfection. Ground to special prescription, I also met bifocal requirements. He and I were to become inseparable at work. At first, he took a lot of pride in me. After working hours I lay in my felt-lined case, secure from breakage. Together we traded several blows with flying objects. Never once did I fail in my protective mission. Surely I must be his most cherished item of equipment. As many others in the same box can testify, I was wickedly deceived!

"Less and less, I began to feel the pleasure of frequent cleanings and careful storing. Instead of my soapy bath and rubdown with lens tissues, my owner would occasionally favor me with a none-too-clean rag. Of course, this didn't help his vision any. When not in use I began to suffer further neglect. I found myself rattling around in his shirt pocket, being gouged by his pencil or other objects. The first scratch on my lens hurt, and in turn bothered him when it came in his line of sight. Since that time I accumulated so many scars that he often had to strain to see through me.

"Ouch, I still flinch remembering the day I lost a screw out of my temple. A cut-off pin, bent over at both ends, took the place of that screw. The second screw was eventually replaced with a length of stripped multi-strand wire with unsightly frayed ends. I wouldn't have objected to the looks alone, but with this arrangement the temple-piece wobbled. My complete downfall came when, dropped out of his shirt pocket, I was accidentally stepped on by my owner. By this time I knew I had passed the point of useful existence. The very next day we made a trip to put in an order for my immediate replacement.

"By rights my story should be finished, but I can't resist moralizing on the sacrifice in my untimely end. I know for a fact that most of the places I worked had good cleaning facilities and available supplies to patch me up properly. In the days I enjoyed the protection of my case, I lived a normal life. Well, this is all. I see the salvage man coming. Only a pair of safety glasses, but think, it was my whole life . . . and far too short"!

SAFE . . . NOT LUCKY!

ACCIDENTS keep right on happening whether you're prepared for them or not. But . . . if you're prepared for them you can live to discover the cause of the accident. You might call it learning . . . the easy way! In this accident several workers were preparing hot lead for some cast iron joints. Ten pounds had been melted in a pot, when it was decided that more lead would be needed for the job. One of the men dropped a cold block of lead in the melted lead. As the cold block hit the lead, nearly all the lead blew out of the pot. Some of it hit the brim of the helper's hat and knocked it off his head. The goggles he wore were solidly covered with hot lead. Yet the man was uninjured! The man had made a mistake and tried to mix cold, moist lead with melted lead, but his protective equipment had kept him from paying for the mistake with his sight or his life. He was wrong . . . not dead.

LOOK WHERE YOU'RE GOING!

A FORK-LIFT operator was moving material in a building. While he was in the building, another plant truck was driven into the entrance of the building. The fork-lift operator assumed that his was the only truck in the building and backed his truck down the aisle and out the door without looking where he was going. He rammed into the other truck and pinned himself between the lift and the steering wheel of the fork-truck, injuring his abdomen. Never assume that things are the same way as they were a minute ago. They aren't. Never, out on the road, or driving in a plant, back up or drive in any direction without looking where you are going.

You could know the plant . . . 20 years of steady growth . . . 20 years of work, brains and money . . . then in 20 minutes a little fire got away and reduced it all to nothing.

But, your larger size fire hazards can be protected very efficiently at a reasonable cost, thanks to C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems. Simple piping, running from one centrally located storage tank, instantly transports clean, non-damaging, non-conducting carbon dioxide anywhere in the plant area . . . to flammable liquids, electrical equipment, storage spaces, manufacturing processes and record vaults. Fire at any protected location is extinguished in seconds with an absolute minimum of expense and interruption.

Flexibility is the keynote with these C-O-TWO Fire Extinguishing Systems . . . the low pressure carbon dioxide storage tanks range in capacities from one to fifty tons . . . discharge facilities can either be manual mechanical, manual electric, automatic mechanical, automatic electric or a combination of these . . . especially installed to fit your particular needs. Future plant expansion is easily and economically provided for by initially installing an oversized low pressure carbon dioxide storage tank and adding the supplementary discharge facilities at a later date.

Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

WHEN BUSINESS STOPS . . . INCOME STOPS!

Don't take chances with your investment. Secure the benefits of highly efficient fire protection engineering today . . . our extensive experience over the years is at your disposal without obligation. Get the facts now!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY

C-O-TWO FIRE EQUIPMENT OF CANADA, LTD. • TORONTO 8 • ONTARIO

Sales and Service in the Principal Cities of United States and Canada

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

(For further details, use Key # E-36 on free Inquiry Card on page 77)

The Fire Front

Blown-On Concrete Fireproofs Walls

THE successful use of air-placed vermiculite concrete for fireproofing a hotel elevator shaft is reported. A Spokane, Washington hotel used vermiculite concrete applied by hose for the job, because conventional fireproofing methods were not possible. To meet a municipal 4-hour fire rating, 2 coats of the material were blown on walls of the shaft.

The job was done in 10 days, and the elimination of forming used in ordinary concrete work saved a "considerable amount" of money, according to the architectural firm which recommended the technique. Had forming been required, it would have put the hotel's service stairway out of use during the job. This stairway, next to the elevator and the inside of the shaft wall, is on the same studs as the stairway wall. Because the stairway is decorated with wallpaper and finished woodwork, they would have had to be replaced.

The concrete met the fire rating because vermiculite aggregate is incombustible and resists the spread of flame, according to the manufacturer. The concrete was applied 3½ inches thick as the plasterers worked their way up the 7 story shaft. A second coat, ½ inch thick was blown on as they descended. No finish was applied, because the concrete was sufficiently smooth.

Pictures by courtesy of the Zonolite Company.

Hose-applied concrete is blown on elevator shaft as fire-proofing since weight of conventional forming and pouring would be excessive and process expensive.

Our Fire Weaknesses

DURING the year 1952 there were 275 fires in the United States and Canada with individual losses of $250,000 or more according to the regular annual survey released by the National Fire Protection Association. These 275 fires produced an aggregate loss of $182,243,000.

The number of large loss fires in 1952 was 9 per cent less than 1951, when 302 "large loss" fires occurred, the largest number in history. The 1952 loss figure for the 275 fires was only exceeded by the years 1947 and 1951.

Geographically, the greatest number of "large loss" fires in buildings occurred in California, which had 19. New York had 18, Ontario 17, and Pennsylvania and Illinois 15 each. Canada sustained 32 of the major building fire losses which is an increase of 6 over the 1951 experience.

Just as many large loss structural fires occurred in towns of less than 20,000 population (or in unincorporated areas) as in the larger cities of 20,000 or over. The record indicates the need to emphasize that those high valued properties located beyond city limits must provide full scale exterior as well as interior fire protection.

When properties are idle, fires seem to be busiest. According to the NFPA Study approximately 63 per cent of the large loss structural fires last year occurred while the property was either not in operation or only in partial usage pointing to the additional need of automatic protection and adequate watchman service.

Occupants were the first to dis-

cover 46 per cent of the fires which subsequently caused losses in excess of $250,000; outsiders were the first to discover 42 per cent of the fires which developed into large losses. Outsiders detected 21 per cent more of the fires that destroyed mercantiles than those that destroyed manufacturing plants.

The reasons, of course, for the greater employee detection of incipient fires in manufacturing plants are (1) longer working hours and (2) more fires caused by operating hazards. It follows that knowledge of what to do in case of fire is particularly important in industrial occupancies. Procedures for calling the fire department, assembling the fire brigade and using fixed and portable fire appliances should be prearranged.

Watchmen were the first to detect 6 per cent of these serious fires. In 19 instances, however, watchmen failed to detect the fires promptly. In three instances watchmen fought the fire before giving the alarm.

Repeating a consistent trend, 57 per cent of the large structural fires were initially reported during hours of darkness. Stores closed for the night were visited by 68 per cent of their fires during such shutdowns. The serious warehouse fires were fairly evenly distributed during the day and night, indicating that their vulnerability is not so greatly affected by their operations.

The reliance placed on the telephone for alarm transmission was reemphasized by the study of the 1952 large loss fire record. About 71 per cent of all alarms were reported by this means as contrasted with only 11 per cent by automatic equipment. In 19 cases fire department notification was seriously delayed because occupants attempted to fight the fire before giving the alarm. In six cases outsiders merely watched the fire and didn't bother to give the alarm for extended periods of time to the public fire services, apparently being under the impression that it was someone else's responsibility.

Research on fire causes is most difficult in the large loss fire experience since so many of these fires are beyond control when discovered and evidence of the origin of the fire destroyed. However, in the known cases special hazards led common hazards by only a slight margin, indicating that it is still "the little things" that are causing these serious fires.

Heavy concentration of combustible stocks in single fire areas, poor stock subdivision and high piling were notable factors in a large number of cases again in 1952. Poor housekeeping conditions, including heavy accumulations of dust on beams, girders, etc., influenced the fire spread markedly in a total of 34 cases.

In 60 per cent of the large loss building fires, failure to subdivide areas to reasonable dimensions permitted the fire to reach large loss proportions. This experience is identical with that in 1951. In 77 per cent of the multi-story building fires, unenclosed stair or elevator shafts were responsible for vertical spread.

One figure which increased alarmingly in last year's record is the number of fires that spread beyond the building of origin to exposed structures. Almost one in every three fires involved more than one building (one in four in 1951)! Checking the reasons for this, it was notable that in 44 cases structural weaknesses were deemed primarily responsible.

Soybeans Start Fires

UNDERWRITERS' Laboratories, Inc. has released a new Bulletin of Research, No. 47, entitled "The Spontaneous Ignition and Dust Explosion Hazards of Certain Soybean Products."

The investigation was undertaken to obtain information on the spontaneous ignition and dust explosion hazards of certain soybean products, including soybean oils, soybean oil meals, and soy flours. Although the dusts and screenings encountered in the storage and handling of soybeans are not commercial products, they were also included in this investigation because of interest in building fires, failure to subdivide their fire and explosion hazards.

The results of this investigation indicated that:

(1) Soybean oils (including crude hydraulic, crude expeller, crude solvent-extracted, nonbreak, alkali-refined, bleached and deodorized, hydrogenated, and blown types) heated spontaneously and ignited.

(2) The spontaneous ignition hazards of soybean oil meals and soy flours appear to depend primarily upon the amount of soybean oil present in those products. Full-fat and medium-fat soy flours heated

(Continued on page 70)

WATCHWORD FOR WATCH-WATCHERS . . .

For today's BUSY physician — it's "Foille First in First Aid" in the treatment of burns, minor wounds, abrasions, in office, clinic or hospital.

CARBISULPHOIL COMPANY
2939 SWISS AVENUE
DALLAS, TEXAS

ANTISEPTIC • ANALGESIC
FOILLE
LIQUID OR OINTMENT
★ You're invited to request literature and samples.

(For further details, use Key # E-37 on free Inquiry Card on page 77)

NOW—

Is The Time!

A thorough Spring check-up will show you the state of your fire defenses.

IN THE April issue of SAFETY MAINTENANCE there appeared some general suggestions emphasizing the need for cleaning up plants and double checking on fire protection equipment. Here are further ideas on what a maintenance check up should include.

Accompanying this article is a check list for inspecting industrial plants for fire hazards prepared by the National Board of Fire Underwriters.

General Maintenance

Prevent crowding. This will make for cleanliness and easy inspection.

Screen openings exposed to sparks from the railroad, adjacent foundry cupolas, and similar hazards.

Keep sidewalk vault lights and window panes whole.

Keep plastering and sheathing in repair so that nothing can be thrown into the hollow spaces behind.

Forbid smoking on the premises.

Keep fire doors closed when not actually in use, especially at night, and keep them free from obstruction.

Special Hazards

All specially hazardous and dangerous processes or devices which may serve to cause or promote fire, should, where possible, be carefully segregated and properly separated from communication with the plant in general, and also receive special

SELF INSPECTION

FOR INDUSTRIAL PLANTS

GENERAL CONDITIONS

Cleanliness and Order.

1. Was your inspection complete, covering all parts of the premises, including looking under benches, into closets, behind radiators, elevator pits, etc.?

2. Where did you find dirt or litter?

3. Were all clothes lockers clean and in good repair?

4. Where did you find oily waste or any other greasy material outside of approved waste cans?

5. Are any waste cans not emptied daily after closing hours?

6. Is there any failure thoroughly to clean up shipping and packing rooms at closing time?

7. Is there more packing material brought in than is needed for one day's use?

8. What rooms or departments were not as clean as they should be?

9. Was yard free from combustible material?

10. Was basement clean?

Maintenance.

11. Is there any part of the plant which the watchman fails to visit?

12. Are any watch-clock records unsatisfactory?

13. Where were machinery, belts or shafting in bad condition?

14. Where were bearings dirty or poorly oiled?

15. Where did you find broken window panes, plastering, partitions, flooring, or other defects?

16. Were any aisles obstructed in stock room?

17. Where do piles of stock or other obstructions interfere with entering any part of building?

HAZARDS

Heating.

18. Where was woodwork or other combustible material too near smokestacks, flues, furnaces, boilers, steampipes, etc.?

19. Where was anything placed to dry on boiler or steam pipes?

20. Was fuel supply safely arranged?

21. Can heated irons be set upon combustible material?

Lighting and Electrical Equipment.

22. Where were there any open flame lights near combustible material?

23. Where were there any broken fixtures or loosened wires?

24. Where were ordinary electric cords looped over nails or found in contact with anything?

25. Where were any fuses replaced by wire or otherwise defective?

26. Where did any panel boards or switch and fuse cabinets need cleaning?

27. Where did any motors need cleaning, outside or inside?

28. Where was there insufficient oil in any motor bearings?

29. In what manner was there any violation of rules for storing or handling oils, gasoline or other flammable liquids?

30. Did you find dry room disorderly or with dirty steam pipes?

31. Where were any fan bearings inaccessible or poorly oiled?

32. Where were any screens or dampers in air ducts out of order?

33. Where did you find any other than safety matches?

34. Where did you find any violation of our rules on smoking?

PROTECTION

Fire Doors, Traps, Shutters and Escapes.

35. Where were fire doors wedged open, obstructed or out of order?

36. Where were the automatic attachments of fire doors out of order?

37. Where were traps or doors on openings through floors out of order?

38. Are they ever left open when not in use?

39. Are fire doors or shutters ever left open at night, or on Sundays or Holidays?

40. Where were fire escapes obstructed, broken or out of order?

Fire Apparatus.

(Inside.)

41. At what points are there *less* than the required number of

(a) *Full* water casks
(b) *Full* fire pails
(c) *Full* sand pails
(d) Feet of hose
(e) Nozzles
(f) Spanners

(Continued next page)

(g) Chemical extinguishers
(Should be recharged at least once a year.)
(h) Ladders

(Outside.)

42. Where were post indicator valves poorly oiled?
43. Where did indicator valves fail to show open?
44. Which yard hydrants are hard to operate?
(Do not open or test hydrants in the winter time.)
45. Which ones do not drain properly?
46. Which ones have you found obstructed with snow or ice?
47. Which ones are otherwise obstructed or hard to reach?
48. Where have you found that hose, nozzles, or spanners were missing or not ready for use?

Fire Pumps.

(*Note*—Pumps must be started at least once a week, discharging water through relief valve, in order to make certain that they are in working order. They must be given a *thorough test* with rated number of hose streams once a year.)

49. Give make, style and size of all FIRE pumps in the plant.
50. Give results of any tests made since last report.
(a) Time required to obtain water?
(b) What pressure was maintained?
(c) Was action smooth?
(d) Is there an automatic regulator?
(e) Was priming tank full?
(f) Was priming gate valve closed?
(g) Were steam drips open?
(h) Did steam trap operate?
(i) Was there enough oil?
(j) Was suction clear of leaves or other obstruction?
(k) Was pump reservoir full?
(l) Were valves in steam connection from boilers to pump wide open?
(m) How many R. P. M. at 100 lbs. water pressure with all outlets closed?

For Electric Pumps, Add—

(o) Has current been interrupted since last report?
(p) What is condition of contact points on switches, circuit breakers, controllers, etc.?

Gravity Supply from Tanks and Reservoirs.

51. Give location and capacity of each tank or reservoir.
52. What was water level?
53. Was water frozen?
54. Was ladder out of order?
55. Were hoops and supports defective?
56. Was tell-tale out of order?

For Pressure Tanks, Add—

57. What was air pressure and was water level correct?
58. What was tank room temperature?

City Water Connection.

59. Was valve in connection to city water main wide open?
60. What was pressure on gauge? lbs.
61. Has there been any interruption of city supply since last report?
62. Give results of any tests since last report:

(a) Number of hose streams --
(b) Diameter of nozzles -- inches.
(c) Pressure at nozzles -- lbs.

Sprinkler Supply Valves.

(*Note*—All gate valves must be secured open with leather straps or other approved method, fastened with sealed or riveted padlocks, the keys being held by responsible persons. In inspection, each valve must be given one full turn to make sure that it is wide open and in working order. Drip valves must be strapped shut in similar manner. Valves under approved supervisory system, however, need not be secured.)

Mark every sprinkler supply valve, plainly, with a number. This will aid in keeping record.
63. Give the number of any valves found closed.
64. Give the number of any valves found not strapped.
65. Give the number of any drip valves found open.
66. Give the number of any valves to which access was obstructed.

Dry Valves.

(*Note*—Dry valves should be tested for water column and condition of spring at least once each three months; they should be tripped at least once a year.)

67. What was room temperature?
68. What was air pressure?
69. What was water pressure?
70. Was alarm out of order?

Alarm Valves.

71. How was valve tested?
72. Did any bells fail to ring?
73. Was valve left in order?

Automatic Sprinklers.

74. Where is stock piled within 24 inches of sprinkler heads?
75. Have any sprinklers operated since last inspection?
76. Where are any sprinklers coated or corroded?
77. Where are any sprinklers obstructed by partitions, joists, etc.?
78. Where are any sprinklers bent?
79. Where are any sprinklers leaking?
80. Where are any sprinklers exposed to freezing?
81. Where are any sprinklers missing?
82. Where are any sprinklers disconnected?
83. How many sprinkler heads are kept in reserve?

consideration in relation to fire extinguishing appliances.

If possible, keep oils outside of the main buildings in a separate oil house. Never keep the main supply of light flammable oils, such as gasoline, kerosene, benzoil, acetone, or mixtures containing them, inside of the main buildings except in nominal quantities as necessary to the processes.

Illuminate the oil house safely and so brightly that there will never be a temptation for an employee to light a match in order to see while drawing oil.

Cut off, by means of a standard fire wall, the place where any process is carried on using flammable solvents. These are always dangerous.

Catch oil drip in metal pans; never use sawdust or other combustible material to absorb it. Excellent oil cabinets are made which drip back into the main tank.

Keep pails of sand for use in case of fire where flammable liquids are used.

Steam jets are of value in suppressing fires in dry-rooms and other relatively small confined spaces; where used, there should be ample boiler capacity behind them to assure volume of steam, with controlling valves located at readily accessible points.

Dry sand forms a very efficient means of extinguishing fires in oils, varnish and other flammable fluids by smothering the flame. A proper supply should be maintained, with a scoop for its distributions, in places where such flammables are used or stored.

Electric flatirons cause many fires by resting on combustible material. Set them on well ventilated, metal stands and install in the circuit a red pilot light which will burn whenever the current is on the iron.

All finely divided, combustible dust, such as starch, flour, coal, cork, sawdust, grain dust, powdered sugar, etc., will explode if ignited when suspended in the air. Cleanliness is the first precaution. The use of mechanical dust collectors is essential where processes generate such dust. Explosions in these materials are

caused by electric sparks, fire from mechanical friction, as well as by open lights.

Hazardous Materials

Ascertain the fire hazard of everything your factory uses and safeguard these things accordingly.

Always set a gas or electric burner device so that it will be clear of woodwork and connect gas with a rigid pipe, not a flexible tube.

Lime, unless stored above the flood level of adjacent streams, tightly enclosed against rain, and protected from water from other sources, is dangerous because it will heat when it is wet; this heating has caused many fires.

Some hazardous substances, commonly used and not always understood, are: chlorate of potash or other chlorates, peroxide of sodium, carbon bisulphide, picric acid, ether, acetone, amyl-acetate, phosphorous, benzol, ammonium nitrate, perchloric acid.

In view of the increase in the transportation of extra hazardous explosive and combustible materials by common carriers, it is advisable that each property owner should make inquiry to ascertain whether his property is subject to danger from the presence of ammunition or other explosives or flammable materials, in railroad cars or vessels; and should invoke the aid of the municipal regulations and transportation companies rules to minimize such danger if found. Railroads are obliged to affix red and yellow labels to cars carrying such materials; this will serve to identify them.

Lighting

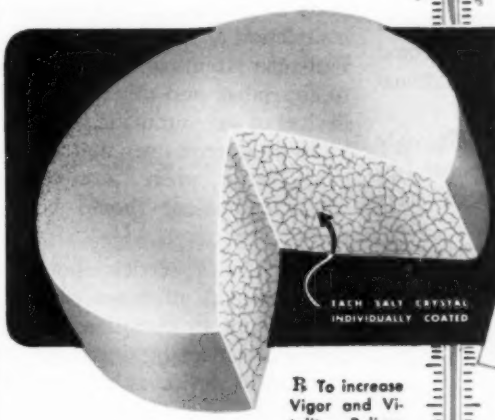
Open lights or flame of any character should never be permitted for use in the presence of light combustible or volatile flammable materials, or where flammable dust is likely to be present; incandescent electric lights in such localities should be of the keyless socket pattern and enclosed in wire guards, with operating switch located in an apartment separated from the flammables.

Wherever flammable vapors are present, approved explosion-proof electric lamps are necessary; a careful arrangement of the location of all switches is also required, or they too should be of explosion-proof type.

The use of incandescent electric lighting is the safest means of illumination, when the equipment is installed in strict conformity with the "National Electrical Code" and its integrity assured by proper supervision of the equipment. (This code is familiar to most electricians, but copies may be secured, when necessary, through application to the National Board of Fire Underwriters.)

Gas brackets must be rigid and guards provided for gas jets wherever it is possible for anything to

Combat HEAT FATIGUE with



PEP-UP® IMPREGNATED salt tablets

Will not cause Nausea or Stomach Distress

℞ To increase Vigor and Vitality, Relieve Fatigue, Dizziness and to prevent Heat Prostration caused by loss of salt through excessive perspiration.

Releases Salt IMMEDIATELY!

(Not Enteric Coated)

• The Formula used for producing Impregnated Salt Tablets was developed at the United States Naval Medical Research Institute. The tablets meet government specifications for Type III, Class C Impregnated Salt tablets (specifications set forth in Federal Standard Stock Catalog No. SS-S-31D Section IV (part 5), dated September 11, 1951.)

Write for Literature and Prices

Save Dispenser Costs

Eliminate the high cost of buying and maintaining permanent type dispenser. Order PEP-UP Salt Tablets in factory sealed EXPENDABLE DISPENSERS at no extra cost. EXPENDABLE DISPENSERS are sanitary, efficient and economical.

UNITED STATES SAFETY SERVICE CO.

KANSAS CITY 6, MISSOURI BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

In Canada PARMELEE, LTD. Toronto — Montreal

(For further details, use Key # E-38 on free Inquiry Card on page 77)

swing or blow towards them. In such places, if the use of gas is unavoidable, it may even be necessary to enclose the jet completely.

If the odor of gas or other flammable vapors is detected, ventilate the place thoroughly before attempting to find the leak. Always use an electric hand flashlight for such investigations, instead of a lighted match or other flame. Shut off the gas, if possible, before beginning the search.

For the less commonly used and more dangerous lighting systems, that is, acetylene, gasoline gas, or kerosene oil pressure systems, the Underwriters have formulated standards for installation by which this work should be guided. (Copies of these standards may be secured through application to the National Board of Fire Underwriters.)

If matches must be used, only those lighting on the prepared surface of the containing box or receptacle should be permitted.

Fire Brigade

In order to secure efficiency in handling fire devices, the owners, operators and employees of every manufacturing plant should become familiar with its fire protection appliances, their locations, purpose and use; and a selected few of the most apt and intelligent of the employees should be formed into a fire brigade, and thoroughly drilled in the proper use of the appliances.

Overconfidence in the efficiency of any private protection equipment must not be encouraged; make it a rule in every instance to summon the PUBLIC FIRE DEPARTMENT upon the first discovery of a fire, and then make the most prompt and effective use of the equipment at hand.

Inspections

All private fire protection equipment should be under the care and supervision of some one capable person, who should be instructed to make regular and careful inspection of all appliances at least once each week, and more frequently where the equipment is large or intricate. He should be empowered to correct any defects and to make written reports to the management upon the completion of each such inspection. Particular attention should be given to the valves and other controlling devices of any automatic equipment to assure prompt operation in emergency; and, where possible, the whole equipment should be regularly tested.

Watchman's service should be maintained at all times when the plant is not in operation, and the record of service be shown on such mechanical device as will not permit evasion of duty. Records should be examined and checked over, filed and dated each day.

When additions to or changes in the buildings of the plant are made, it is necessary to make sure that the extension of the hydrant, sprinkler, or other fire protection system keeps pace with the work and that any unnecessary interruption to any part of the fire protection is avoided.

Sealed-on PROTECTION
SUPERWEAR NEOPRENE CLOTHING

Conforming to one rigid top quality standard . . . Time tested by years of tough wear . . . Designed for SAFETY . . . Available in SAFETY YELLOW or BLACK.
Dupont's NEOPRENE is *sealed on under pressure* . . . not merely dipped, brushed or sprayed on. Rugged drill cloth backing—used instead of ordinary sheeting—reduces tearing. Garments full cut for working comfort . . . Extra large sizes at NO additional charge.

Write for our complete catalogue.

C. L. LOVIG CO. MARINETTE, WIS.
Manufacturers

Flexible DuPont Neoprene
Acid, oil and sun resistant

Twenty-five years experience supplying leading industries

(For further details, use Key # E-39 on free Inquiry Card on page 77)

Soybean Fires

(Continued from page 66)

spontaneously and ignited. Industrial hydraulic soybean oil meal heated spontaneously to a moderate extent, but did not ignite. Untoasted solvent-extracted soybean oil meal and low-fat soy flour did not heat spontaneously under the conditions of the spontaneous ignition tests.

(3) Screenings from soybeans may present a spontaneous ignition hazard under some circumstances, depending on the amount of soybean oil and other oxidizable combustible material present in the screenings.

(4) Like other common combustible agricultural products in a finely divided solid state, soybean oil meals, soy flours, and soybean dusts and screenings are capable of propagating flame (explosion) when disseminated in air in sufficient quantities in the presence of an adequate source of ignition.

Copies of this Bulletin of Research may be obtained by addressing Underwriters' Laboratories, Inc., 207 E. Ohio Street, Chicago 11, Illinois.

February Fire Losses

ESTIMATED fire losses in the United States during February amounted to $72,706,000, the National Board of Fire Underwriters reports.

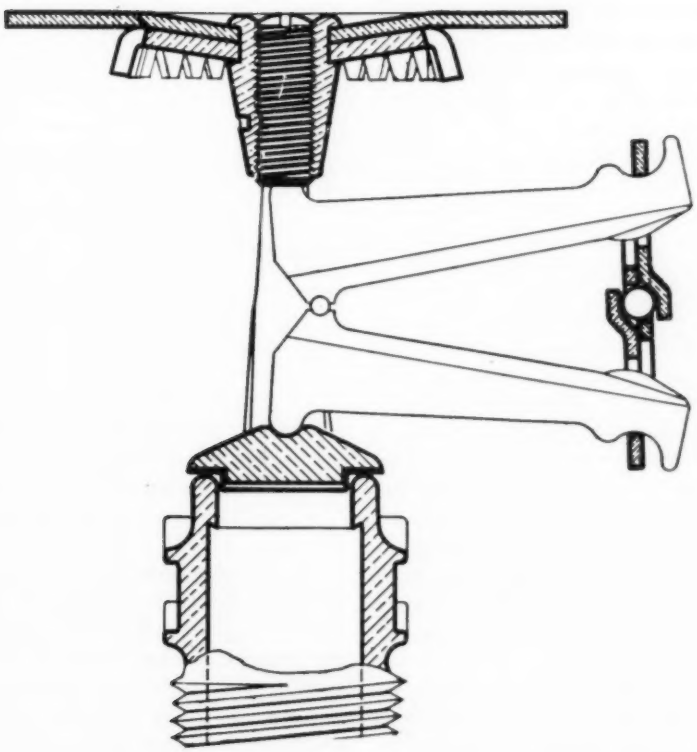
According to Lewis A. Vincent, NBFU's general manager, this loss represents an increase of 4 percent over losses of $69,925,000 reported for February, 1952, and a decrease of 5.2 percent from losses of $76,659,000 for January (1953).

Losses for the first two months of 1953 now total $149,365,000, an increase of 3.6 percent over the first two months of 1952, when they amounted to $144,080,000. These estimated insured losses include an allowance for uninsured and unreported losses.

New Sprinkler Being Tested

New sprinkler head (upright type) sprays water laterally and downward rather than against ceiling as do most sprinkler heads.

Provides better spray distribution.



Cut-away view of new sprinkler head (upright type). Arrows point to deflector and deflector plate which break up water and distribute it in fine spray on fire.

ALTHOUGH fire protection by means of automatic sprinklers can hardly be considered as new (first practical application in the United States dates back to 1878), the basic design of sprinkler heads, including water discharge characteristics, has remained unchanged. The trend toward more efficient use of buildings and equipment, unusual developments in the processing industries as well as concentration of high values in commercial and industrial business operations, has all led to increased insurance costs and understandable demand for improved methods of fire protection.

In recognition of this grave situation, insurance underwriters back in 1947 initiated investigations leading up to the development of a vastly improved fire fighting sprinkler. Utilizing the laboratory facilities of a leading insurance association and the sprinkler industry, hundreds of extensive, full-scale fire tests were conducted. Fire conditions of all kinds were simulated and extinguishing methods, involving various types and arrangements of approved sprinklers and spray nozzles were employed. Water discharge characteristics received close scrutiny, as heretofore approved devices were designed to discharge 60 percent of

WORLD'S LARGEST STOCK OF SAFETY BADGES

1933 SERIES . . . 1¼" dia. hard glazed enamel, heavily gold plated. Pin and safety lock catch. $10.50 doz. (plus Fed. Tax.)

SAFE DRIVER AWARDS
NO ACCIDENT PINS
SERVICE EMBLEMS
PLAQUES—TROPHIES

Write for FREE 32 Page Catalog

CLARENCE WILLIAMS

WILLIAMS JEWELRY & MFG. CO.
Silversmiths Bldg. 10 S. Wabash Ave.
Phone: CEntral 6-5018 Chicago 3, Ill.

(For further details, use Key # E-40 on page 77)

For Safety
Guardi-Ann Hat

Combines utmost protection and style. Exclusive patented features found in no other hat.

Write for Free Sample or Order Direct from us

$15.00 dz.

CHIC MAID HAT MFG. CO., Inc.
630 HIGH STREET
BUFFALO 11, N. Y.

(For further details, use Key # E-41 on page 77)

the water upward against the ceiling. It had been reasoned that direct application of water against ceiling structures was necessary to obtain satisfactory control and extinguishment of fire. But, the fire tests dispelled this theory, as it was found that when water is deflected off the ceiling it falls in coarse drops or fine streams, reducing the maximum cooling effect of the extinguishing agent.

It was learned that an effective pattern of distribution and break-up of water at desired rates of flow was the most important factor to consider in engineering positive fire protection. For best cooling, the discharge pattern should be solid, extending laterally and downward—defining the area to be protected. It should be a mixture of water drops of varying sizes, including mist and fine spray.

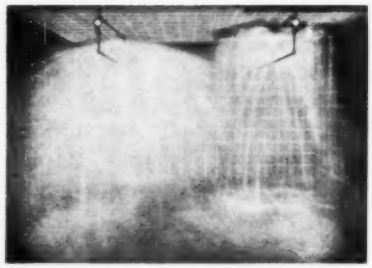
With the foregoing data to serve as a guide, a new sprinkler head was designed.* The new device is available in two styles—upright, for exposed piping installations, and pendant, for installations involving concealed piping. The discharge waterway and operating mechanisms of the device are identical to previously approved sprinklers but modifications in the design of the frame and deflector afford substantially more efficient use of water for fire protection.

Application of New Sprinkler Heads

With the performance of the new sprinklers, recognized as better than that of conventionally approved devices, review of present standards for installing automatic sprinklers is now under way. Within the next several months it is expected that actual operation and experience factors will lead to revisions and extensions in existing codes. This will no doubt have a substantial bearing on the future methods of fire protection engineering.

In the meantime, insurance authorities recommend the following basis of use for the new sprinklers:

1. For protection on new standard systems of fire protection.
2. As replacement for other types of automatic sprinklers where the fire hazard approaches the limit of ordinary sprinkler capacity.
3. Where ceiling obstructions have been recognized as requiring additional sprinklers solely because they prevented proper distribution of water on the ceiling.



Heavy water droplets from regular sprinkler on right form noticeable pattern on floor. New sprinkler head at left distributes and breaks up water efficiently.

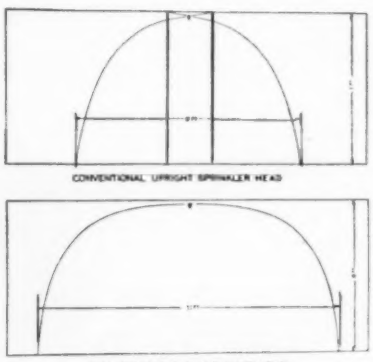


Diagram shows spray patterns of conventional and new sprinkler heads. From 10 feet above the floor the new type sprinkler effectively covers a circle of floor 20 feet in diameter, in contrast to a 15 foot circle for the regular sprinkler.

4. As substitution for ordinary types of sprinklers where the existing water supply is limited or where present piping and sprinkler spacing is sub-standard.

It is anticipated in the near future that new sprinkler installations can be made at a considerably reduced cost, since wider spacing of the new sprinklers is likely to reduce the number of heads required under practically all types of construction.

* The name of the manufacturer can be obtained on inquiry to the editor.

What's New . . .

For your convenience in obtaining descriptive literature of products listed here, use the Reader's Inquiry Card. Just write in the code number given with each item. Or send written requests to:

Service Dept.,
SAFETY MAINTENANCE & PRODUCTION

WOMAN'S SAFETY HAT

(Use Key # 735 on Inquiry Card on page 77)

A HAT of white taffeta, particularly adapted to women in the food, drug and process industries has been introduced by the safety division of The Boyer-Campbell Company. This line of hats also available in blue taffeta are said to be cool and light weight. Known as "Ray-ve", the fundamental design and construction of the hat is such that there is no inclination to tuft the hair in front, hazardous practice with a peak-cap worn on the back of the head. The snood of the hat is adjustable to take care of any amount of hair.

NEW WATER DISINFECTANT

(Use Key # 736 on Inquiry Card on page 77)

A NEW water disinfectant with outstanding germicidal properties, as well as chemical products, called Movidyn, is announced by the United States Movidyn Corporation.

The disinfectant has safely killed germs of typhoid, cholera and many other diseases. It is a stable colloidal solution of extremely fine activated silver particles in a protective medium. It has been established that less than 1 part in 10 million will sterilize water and will also inhibit the growth of algae, fungus and mold. Said to be tasteless, non-poisonous, non-corrosive, safe to handle in concentrated as well as diluted form, Movidyn has many advantages for the treatment of water supplies, swimming pools, industrial plants, and food equipment.

Developed originally to combat bacteriological warfare the compound has just recently been released to the commercial market. Two years of laboratory experiment and testing under the U. S. Public Health Service and the Army has been carried on with the product. According to the manufacturer, the sterilizing agent is simple to apply and requires very small quantities for effective results. It has been demonstrated that 1 ppm of the disinfectant will kill bacteria present in water within a short period of time.

Though many of the sterilizer's uses, based on preliminary laboratory tests, still have to be confirmed in the field, the manufacturer expects it to be applied to many processes. In water purification it is valuable because it is tasteless, non-corrosive, easy to handle and apply, and has a carry-over action that will sterilize the entire distribution system in a short time. Among industrial uses are control of algae and slime in paper mills, water-cooling systems and for wash water. An interesting possibility is suggested by the characteristic that the disinfectant in some cases transfers residual sterilizing power to the product on which it is used.

CRASH AXE

(Use Key # 737 on Inquiry Card on page 77)

AN EMERGENCY tool, designed to meet needs of fire service, civilian defense, and other emergency working groups, is announced by the Atlas Safety Equipment Company.

The crash axe is a one piece forged steel implement. The handle is insulated with moulded rubber to withstand 20 thousand volts, which permits the use of the axe to cut through live wires. The cutting edge and pick are adaptable for quick cutting and ripping. Weighing 2½ pounds, the axe is 15¼ inches long and is carefully balanced. It is suited to use in garages, shipyards, railroads, mines, hotels and industrial plants. It is available with a leather sheath.

NEW MOTORIZED SWEEPER

(Use Key # 738 on Inquiry Card on page 77)

AN IMPROVED motorized industrial plant sweeper has been announced by Multi-Clean Products, Inc.

A rotary brush sweeper and heavy-duty vacuum cleaner combined into an integral unit, the machine is said to be highly efficient on dust, dirt, steel shavings, scrap paper and cardboard, grass, leaves, small metal parts and milling debris.

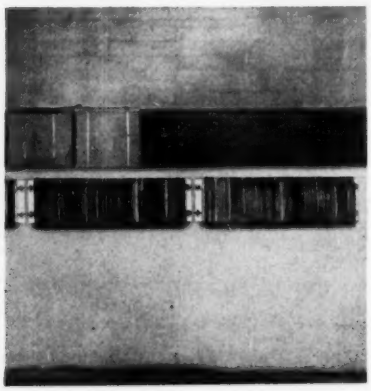
Because of its speed, efficiency and economical operation the manufacturer claims that with its use plant maintenance time and costs can be cut up to 80 percent.

Sweeping is done by eight 36-inch hardwood, Palmyra filled brushes welded into a single circular unit 17-inches in diameter and 36-inches long. The effective sweeping area is increased to 48-inches by use of the side brush attachment. The vacuum is built-in, and is mounted directly on the engine shaft.

GLOVE-FINISH

(Use Key # 739 on Inquiry Card on page 77)

A NEW "safety grip" finish is now being used on the Edmont line of Redmont coated fabric work gloves. Extending from the middle of the palm to the ends of the fingers, the improved finish offers three important advantages—better wet grip, longer wear, won't chip, crack or peel. The new finish is made of a material which cures into and becomes a part of the base reinforced neoprene coating. The gloves are available in 5 styles ranging from a fully coated knitwrist to an elbow-length gauntlet—all with the improved "safety grip" finish. The 12" fully coated gauntlet is illustrated.



LOADING-DOCK BUMPERS

(Use Key # 740 on Inquiry Card on page 77)

A NEW product, Durable Loading-Dock Bumpers, which are designed to take the bump out of loading docks, is announced by the Durable Mat Company. These rubber loading-dock bumpers absorb the shock when truck and dock come together. They are made in sizes which make them applicable to any installation.

The company claims that with these new loading-dock bumpers replacement of dock timbers is eliminated; damage to truck bodies and castings becomes a thing of the past; and because sharp impact is lessened, little damage to fragile freight results, thus reducing claims.

OILY-FLOOR CLEANER

(Use Key # 741 on Inquiry Card on page 77)

A NEW product known as F.O.-151, a floor cleaner designed to remove greasy oil deposits from floors that won't respond to ordinary cleaners, is announced by Fine Organics Inc. The compound is particularly efficient on surface oils and blotches that are the cause of accidental slipping by operating personnel. It reduces this hazard by actually getting to the concrete.

Ready to use, this floor cleaner is a relatively non-toxic cleaning solution that is said to be safe for hands and skin. Procedure is to spray or brush on floor, let soak and flush off with water. The job is called quick and easy.

SPRAY-RESPIRATOR

(Use Key # 742 on Inquiry Card on page 77)

RESPIRATORY protection for orchard crews, farmers and other outdoor users of powerful new insecticides is offered in a single farm spray respirator. The Mine Safety Appliances Company's Farm-Spray Respirator, equipped with new-type filters, has been accepted by the U. S. Government Inter-Departmental Committee on Pest Control for use in outdoor handling of insecticides containing T. E. P. P., H. E. T. P., O. M. P. A., Systox, and variations of newly developed organic phosphate and phosphoride insecticides.

Previously this respirator had been approved for insecticides such as parathion, dieldrin, aldrin and E. P. N. When equipped with new-type filters, the company's old model farm spray respirator can be used against all these insecticides. The respirator for which the new filters are designed is a light-weight unit with molded rubber facepiece to provide an air-tight seal without excessive tension on face or head. The filters can be changed quickly and independently of the twin chemical cartridges. The latter remove organic vapors while the filters screen out solid dust particles.

Engineer representatives of the manufacturer, explain that the respirator is designed for outdoor mixing and application of the powerful new insecticides. In greenhouses, service buildings and other enclosed spaces, where the concentrations of such insecticides may be heavier, heavy-duty industrial-type gas masks with full facepieces and replaceable canisters are recommended.

RUBBER WIRING-DUCT

(Use Key # 743 on Inquiry Card on page 77)

A NEW rubber floor duct, especially designed to dispose of over-the-floor wiring problems in office buildings, warehouses and similar places, has been brought out by Winders & Geist Inc.

The company reports that 5 items of this synthetic rubber compound, called Flexiduct, and a tube of cement solve most inside wiring problems. The compound is produced by Goodyear Tire and Rubber Company. The floor duct is said to be moisture proof and long wearing. It is made of rubber 2¾ inches wide at the base and rises from a feather edge to an apex of 7/16 of an inch.

The duct is applied in any desired length with a special cement, eliminating noisy, expensive floor drilling. Its flexibility allows it to adhere evenly and securely to all types of floor surfaces. It can be removed by prying one end loose and pulling it up. Riser fittings are available so that wires may be run directly up under desks or other equipment. "L" and "T" angle fittings simplify installation, and give more complete protection for wires. Typewriters and other equipment on casters can be easily and safely rolled over this rubber floor duct. The duct can be used for electrical wiring also. It will accommodate extension cords or wiring for appliances such as lamps, fans and electrically operated office equipment.

CAULKING COMPOUND

(Use Key # 744 on Inquiry Card on page 77)

AN ELASTIC caulking compound is being produced by the A. C. Horn Company, Inc. Called Vulcatex, the product is designed to withstand varying degrees of temperature, and retain its ability to produce a water-tight, air-tight seal.

Used in quantity in the recent construction of a U. S. Air Force base at Thule, Greenland, the compound successfully withstood minus 60 degrees F. and winds up to 150 miles an hour velocity, keeping heat inside and cold out. The manufacturer reports that the compound has outstanding qualities of adhesion, plasticity and long life. Types of the compound to withstand great heat are also available.

NEW GAUZE TAPE

(Use Key # 745 on Inquiry Card on page 77)

PROTECTION of workers' fingers on jobs where they handle rough, sharp, hot or abrasive materials, a problem present in manufacturing plants and warehouses, is the target of a new product called Gauztape that is said to overcome the possibility of bruises, burns and skin injuries.

Manufactured by Modern 1st Aid Necessities, this tape is so made that it adheres only to itself. It will not stick to the skin and upon removal leaves no residue on the fingers. It is easily applied and is painlessly removed. It is also widely used for bandage purposes as it serves both as gauze and tape. Grease and oil will not affect it. It will not loosen in water. It is said that tests show that this tape does not reduce finger sensitivity or interfere with the rapid, efficient handling of small, thin or elusive parts. One finger cot of the tape is said to provide effective protection for a full working day without replacing or adjusting.

PLASTIC PIPE FLANGE SHIELDS

(Use Key # 746 on Inquiry Card on page 77)

A LINE of pipe flange shields, made of polyethylene plastic, and designed for close-quarter use, is announced by Wilmington Plastics Inc.

According to the manufacturer, the shields are transparent to allow visual detection of leaks, resistant to most chemicals, non-breakable, light and easy to install and remove. They are designed for re-use and are put on by snapping plastic buttons in place. They completely surround the flange, manifold, tee or elbow and protect personnel and equipment against dangerous chemicals.

Said to be more economical than metal shields, the shields run in 4, 5, 8 and up to 13¼ inch standard sizes. Other than standard sizes are available on order. Included are flange shields for porcelain, glass and plastic pipe. The plastic snap-on fasteners allow for rapid installation and removal, and will not corrode. Designed for use on 150 and 300 pound steel pipe flanges the shields have sufficient flexibility that they can be altered to fit other than standard items, such as valve flanges, pump stuffing boxes and packing glands, or tank connections.

MESSAGE REPEATER

(Use Key # 747 on Inquiry Card on page 77)

A NEW machine, designed to promote safety in all phases of industrial operation, has been developed and manufactured by the Mohawk Business Machine Co. It is called the Message Repeater, a compact unit which occupies a space of 150 cubic inches and weighs less than 6 pounds. A cab company has installed some of the machines in its garages as a means of warning its employees to be alert in avoiding injury on the job. Messages such as "Don't smoke while near gasoline" or "Make sure the jack is secure when raising the cab" and other tid-bits of safety advice are repeated at

different intervals throughout the day by means of the device.

Capable of being electronically activated by such devices as photo electric cells, hydraulic, micro or pneumatic switches, electric eyes or beams, etc., the machine, with announcements in any interval up to 5 minutes, can be placed anywhere, in or out of view, and needs no supervision once the message has been recorded. Some of its other features are: messages can be erased and new ones recorded in one operation; a plastic enclosed tape cartridge, about the size of a package of cigarettes, which can be simply inserted and removed and plug-in outlets for external loudspeakers, booster amplifier and activation devices.

FAST-DRYING FLOOR PATCH

(Use Key # 748 on Inquiry Card on page 77)

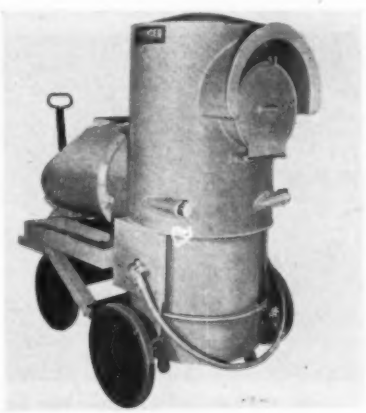
AN IMPROVED, high-speed method to repair holes, ruts and other imperfections in concrete floors of all kinds is announced by United Laboratories, Inc. of Cleveland. This new product, known as Superset Tampatch, is applicable wherever the need lies to repair floors without loss of productive time. Essentially, all that is needed is to clean and bond the surface to be patched, dump in the required material and tamp firmly into place. The patched area may be placed in service almost instantly. The patch becomes smooth with moving traffic and will withstand extremely heavy loads. The compound is composed of aggregates coated with fast drying synthetic resins and combined with asphaltic oils. The material is shipped ready to use without mixing. When the container is kept air tight, the material will keep indefinitely and is ready for use at any time. The bonding material is delivered separately.

AIR-BORNE BACTERIA CONTROL

(Use Key # 749 on Inquiry Card on page 77)

A NEW model Glycolator for furnace application embodying complete temperature control has been announced by the Glycolator Division of Iron City Chemical Company. The appliance volatilizes Glycosol and introduces it into the air-stream in warm air furnaces or stacks, for the control of air-borne bacteria and viruses, reducing the incidence of colds and other respiratory diseases. The new model is mounted easily and treats up to 20 thousand cubic feet of air per hour.

Temperature control keeps the volatilization at the correct rate and is more economical of current consumption.



PORTABLE VACUUM CLEANERS

(Use Key # 750 on Inquiry Card on page 77)

THE applications for vacuum in industry have materially increased during the past few years. The volume of industrial waste, and the character of the materials to be picked up by vacuum have demanded ever greater horsepower in the vacuum equipment.

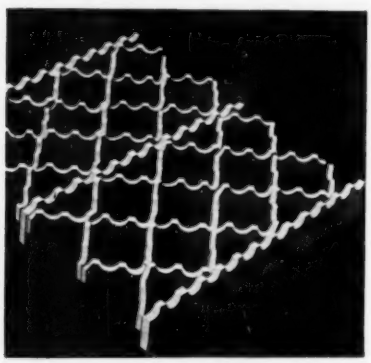
To meet these requirements, the Spencer Turbine Company has redesigned its entire line of heavy duty portable vacuum cleaners to make them compact in order to go through standard factory doors or onto elevators, and to provide easy moving, with large capacity dirt receptacles which roll on casters to the point of disposal.

PLASTIC COATED GLOVES

(Use Key # 751 on Inquiry Card on page 77)

TO SAFEGUARD the hands of workers who do dirty jobs and handle harsh materials, a tough, colorful new plastic-coated work glove has been developed by the Granet Corporation. Called Dynagluvs, the new product is liquid-proof and highly resistant to abrasion and abuse. A seamless wing thumb provides an extra safety feature while a natural molded curve contributes to comfort.

Especially compounded for industrial gloves, the coating is available in emerald green. The gloves are made in knitwrist, band top and gauntlet styles, either fully-coated or palm-coated. They are designed to protect working hands that handle oils and chemicals, wood and steel, lumber, bricks, tile, clay, cement and machinery, rubber and paper, fish and meat, etc.



ANTI-SLIP GRATING

(Use Key # 752 on Inquiry Card on page 77)

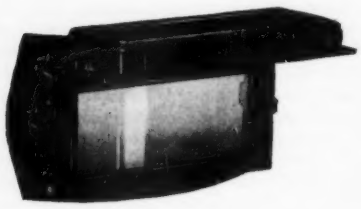
A NEW, patented ⅛" stock grating which checks walking hazards due to oil, grease or water has been developed by the Bustin Firm-Grip Grating Corp. Outstanding feature of the grating is that its serrated edges give sure footing but are still comfortable to walk and stand on. Recent laboratory tests indicate the grating remains slip-proof even after being submerged in chassis grease and tilted to a 15 degree angle. It is ideal for installations where excessive oil, grease, water or icy conditions make walking hazardous; and where drainage and sanitation are necessary.

EXHAUST NOISE MUFFLER

(Use Key # 753 on Inquiry Card on page 77)

A RADIAL-FLOW muffler to control the noise of air-operated equipment has been developed by the Allied Witan Company. The muffler is designed to reduce the health hazard caused by noise, save wear and tear on operators' nerves, prevent injury from exhaust air, and eliminate the hazard of flying pipe scale. The muffler silences exhaust air noise by dissipating the exhaust energy. Exhaust air entering the muffler is trapped by the inlet chamber, divided into a series of streams, and decelerated, permitting exhaust air to flow into the atmosphere in a smooth noise-free flow.

The muffler may be successfully used to eliminate exhaust noise on air cylinders, air motors, vacuum pumps, foundry equipment, air vises, auto-truck lifts, mill equipment, power presses, drill presses, and most other air-operated equipment. Design and operation features include: compact design, light weights; uniaxial orifice construction; baffle-free design; simplicity of installation; full flow rating; operation in any position; high ratio of radiation; and resistance to vapors. Radial-flow mufflers are reported to cause no interference with tool operation and also to precipitate oil and/or water vapors.



WELDING PLATE RETAINER

(Use Key # 754 on Inquiry Card on page 77)

A NEW lift front welding plate retainer is now being offered by the Sellstrom Manufacturing Company.

The unusual features are described as: 1. The inner clear protective plate is permanently mounted on a stationary frame separate and behind the movable filter plate. 2. When the filter plate is lifted for clear seeing, the stationary clear plate fully protects the eyes from flying slag. 3. The filter plate and clear plate are each held in place by separate tension springs. 4. A hidden spring in the hinge keeps the window firmly in the "up" or "down" position without in any way affecting the clear protective plate. 5. The frame is moulded from plastic, and has an extra protection if accidentally dropped—a pressed steel cover front.

This plate retainer can be furnished with any of the manufacturers round front helmets. It is also interchangeable with the "standard" front loading plate retainer with which the company's round front helmets have been equipped.

NEW TUC-AWAY EYESAVERS

(Use Key # 755 on Inquiry Card on page 77)

A NEW Model 415 Tuc-Away spectacle featuring all-plastic Retrax * temples has been announced by the manufacturer, Watchemoket Optical Co., Inc. This new all-plastic spectacle is designed to give up to 90% protection from eye hazards. Its featherlight construction and smart appearance make it especially appealing to workers. The plastic "ball-chain" hook design fits comfortably into the cartilage formations behind worker's ear, and there's no metal to corrode. These all-plastic Retrax * temples are the first to rival successfully the flexibility and ear comfort of metal cable-action temples.

The plastic temples telescope in or out to adjust to any length desired. Once adjusted to comfortable length (by the workers themselves), the temples stay firmly in place. This adjustable feature makes it unnecessary to stock a supply of several different frames with temples of varying lengths. Universal nose-piece of the Tuc-Away fits over 90% of all faces.

Three differently styled lenses fit into the Model 415 frame: Regular Side Shield for average eye hazards; Full 1" Side Shield for clear-view side protection; and the Semi-Cup Lens for side and bottom protection (up to 90% complete protection). All lenses are made of shatter-proof methyl metharylate. They are easily replaced by the worker, and are available in clear or light, medium and dark green.

* Trademark

FREE BULLETINS & CATALOGS

As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE & PRODUCTION. To obtain copies write in the key numbers on the free-postage card below.

AIR CONTROL

Dust Collector 435
Pangborn Corp. A 2-color, 6-page brochure illustrates the engineering features of a new dust collector unit that uses the principle of reverse air-flow for continuous cleaning of cloth filters. The bulletin also points out some of the unit's features which reduce operating and maintenance costs. Existing installations of the company's dust collectors can be converted to the self-cleaning arrangement.

Air Conditioning Equipment 436
United States Air Conditioning Corp. Described in this 4-page, 2-color bulletin is the company's line of air-conditioners, floor, ceiling and window models, and store conditioners, gas fired heaters, evaporative condensers, blower heaters, heating and cooling coils and ventilating blowers. The bulletin covers the functions, specifications and applications of the various illustrated types of equipment.

Flock Equipment 437
Paasche Airbrush Co. Equipment for flocking, a process in which finely cut fibres of cotton, silk, rayon or nylon are sprayed on a product for insulating, protecting or decorating, is illustrated and detailed in this 4-page, 2-color bulletin. Powders, granules and shell glazes can also be applied with the equipment. Listed and described are applying guns, pressure tanks and feed hoppers, reclaiming booths, automatic flocking units, airbrushes and air-painting units.

BUILDING MAINTENANCE

Insulation Material 438
Gustin-Bacon Manufacturing Co. A new thermal and accoustical insulation made of fine, blown fibers is the subject of a 2-color, 4-page folder. Treated in detail are the physical properties, principal uses, handling characteristics, thermal conductivity and accoustical efficiency. Illustrations show the product in use and tables demonstrate the accoustical and thermal properties.

ELECTRICAL MAINTENANCE

Maintenance Service 439
Westinghouse Electric Corp. A 24-page booklet describing a complete electrical apparatus maintenance service presents repair service plants, renewal parts and engineering and field service. Pictures show testing devices and repair equipment available to customers of the service. Motor exchange service, periodic inspection and "on-the-spot" repairs by field engineers are covered.

Electrician and Mechanic Tools 440
Mathias Klien & Sons. A listing for tools for electricians, linemen and mechanics is the central purpose of this 90-page catalog. A few of the devices included are pliers, safety belts, clamps, "climbers", wrenches, knives and tool kits. Each product is carefully detailed and charts at the back of the pocket-size booklet furnish additional information.

FLOORING MAINTENANCE

Germicidal Cleanser 441
Huntingdon Laboratories, Inc. This 3-color, 6-page folder outlines the qualities and uses of the company's germicidal cleanser. Designed to clean, disinfect and deodorize in one operation, the cleaner is said to be non-irritating to the skin. The folder explains that it can be used on floors, walls and fabrics in the scrub water.

Industrial Floor Sweeper 442
Parker Sweeper Co. Included in this illustrated 2-color, 4-page bulletin are three models of the company's sweepers. The bulletin covers the various features of motorized and non-motorized sweepers, such as an extended-arm brush to reach into corners and collect all dust along the wallboards. Specifications and reports of users results are also contained in the bulletin.

Floor-Line Marker 443
H. C. Sweet Co. This 6-page, 3-color folder illustrates two models of the company's machine for marking painted lines on floors. It details the construction, weight and operation of the markers. Sectional drawings show how the device operates. Equipped with guide and paint-control, the marker has a brush that can be lifted to retrace lines or make skip lines.

Floor Maintenance Guide 444
West Disinfecting Co. A 32-page, 2-color guide to floor maintenance, this booklet covers cleaning, maintaining and sealing floors. It discusses floor cleaners, sweeping preparations, sealers and finishes for all types of floors. One section deals specifically with hints on application of floor maintenance products and safety precautions in their use.

FIRE PROTECTION

Flame Resistant Fabrics 445
Philadelphia Textile Finishers, Inc. Described in this 20-page illustrated catalog are the structure and characteristics of the company's line of flame-resistant canvas. Illustrations show how laboratory tests comply with government specifications for resistance to fire, water, weather and mildew. Also shown are examples of uses in industry, including canvas in temporary structures, protective covers, welding screens etc.

Fire Protection Equipment 446
Elkhart Brass Mfg. Co. Listed in this 132-page catalog are fire department equipment, fire extinguishers, hose couplings and accessories, hose nozzles, stand-pipe equipment, government specification fittings, threads and reference data. Each product is fully described and illustrated. Tables covering threads, weights, effective reach of hose streams, friction loss and nozzle pressure appear in the final section of the catalog. An index of products is included.

Carbon Dioxide Extinguishing Systems 447
Walter Kidde & Co., Inc. This 8-page, 2-color booklet describes the company's line of built-in carbon-dioxide extinguishing systems. It begins by explaining the value of carbon-dioxide as a fire control, continues by listing the uses, covers total and limited flooding of areas, explains the operation of the system and discusses the various types of automatic systems such as fixed temperature thermostats, rate-of-rise and fusible quartz bulbs.

Shut-off Valve 448
Valco Inc. Typical installations, construction features, inspection, operation and specifications of a temperature-actuated automatic shut-off safety valve for use on any type of line at any pressure is the subject of this 4-page, 2-color bulletin. Designed to shut-off fuel lines in utilities, refineries, warehouses, laboratories etc., the valve will operate even if the head is blown off.

Magnetic Separators 449
Eriez Mfg. Co. Designed to remove tramp iron and prevent product contamination, fires, explosions and machinery damage, the magnetic separators, described in this 4-page, 2-color bulletin, are said to be very strong and capable of retaining their magnetism indefinitely. Their various uses are illustrated and typical installations are shown.

HIGHWAY & TRANSPORT SAFETY

Safe-Driving Instructor 450
Magno Saf-t Board. This multi-colored, 4-page folder illustrates and explains the use of an instruction board for visual instruction in safe-driving. Magnetized on both sides, the board is equipped with miniature cars, trucks and other highway equipment. One side allows for particular situations to be sketched in on a blackboard. The device can be used flat or tilted on an easel.

(Continued next page)

SPECIAL OFFER BELOW VALID ONLY FOR THREE MONTHS AFTER PUBLICATION DATE.

READERS INQUIRY CARD

HOW TO GET FREE DATA! **(No Postage Required)**

ADVERTISED PRODUCTS: Just insert the key number shown under each advertisement in the boxes below.

NEW PRODUCTS ("WHAT'S NEW" Pages): Insert the key numbers shown on each item.

FREE BULLETINS & CATALOGS: Insert the key numbers shown on this page.

May, 1953 **Please send me the following free data —No obligation.**

PLEASE PRINT

Name _____ Title _____

Company Name _____

Street Address _____

City _____ Zone _____ State _____

MAIL POSTAGE PAID CARD FOR MORE DATA

Free Bulletins (Continued)

Bridge-Floor Surfacing 451
Reliance Steel Products Co. A resurfacing for open-grid steel bridge floors is described in this 4-page, 3-color folder. A machine which serrates the flooring to give better grip to tires is illustrated and detailed. Typical installations are also covered. Serrated steel flooring of several types for new bridge construction is also dealt with in the bulletin.

MATERIALS-HANDLING EQUIPMENT

Chain and Materials-Handling Equipment 452
Round Woodhouse Chain & Mfg. Co. This 36-page, multi-colored catalog covers the company's lines of chains, slings, hooks and chain accessories, hoists and trolleys. Illustrations and description explain each product. Specifications are included.

Conveyor Uses 453
Rapids-Standard Co., Inc. Six field reports on the installation and use of the company's conveying equipment in the metal-stamping and machine tool industries are the subject of this review. Photographs of the installations and plans of the various set-ups are given in each report. In each case the problem encountered, what was done, how the system worked, and the results of its installation are explained.

MEDICAL PROTECTION

Protective Skin Creams 454
Fairfax Chemical Co. Detailed in this 4-page, 2-color bulletin is the company's line of protective skin creams. Four types of creams that protect the hands against dust and staining, cutting oils and other petroleum products, caustic compounds in dry and aqueous solutions, coal tar derivatives and solvents. A hand cleaner is also discussed.

Vermin Control 455
Prentiss Drug & Chemical Co., Inc. Designed for the preparation of ready-to-use baits and rodenticides, the rat-killer discussed in this 16-page, 2-color bulletin, is described as an anti-coagulant. In discussing the concentrate the booklet first illustrates the chemical make-up of the drug, explains its action, covers hazards to humans or pets, gives directions for use and labeling, quotes results achieved and gives suggestions for bait boxes, bait placing and follow-up after baiting. One page is devoted to questions and answers about the rodenticide.

Index to Advertisers and their Agencies

American Optical Co., *Sutherland-Abbott, Boston* ..... Inside Front Cover
Ansul Chemical Co., *J. A. Cormack, Milwaukee* ..... 5 & 59

Bausch & Lomb Optical Co., *Ed. Wolff & Associates, Rochester* 9

Cambridge Rubber Co., *The Bresnick Co., Inc., Boston* 58
Carbisulphoil Co., *Tracy-Locke Co., Inc., Dallas* 66
Chesebrough Mfg. Co., Cons'd., *Noyes & Sproul, Inc., New York* 53
Chic Maid Hat Mfg. Co., Inc., *Armand S. Weill Co., Inc., Buffalo* 72
Chicago Eye Shield Co., *Reincke, Meyer & Finn, Chicago* 21
Columbus Glove Manufacturing Co. 41
C-O-Two Fire Equipment Co., *G. M. Basford Co., New York* 64
Cover, H. S., *Jerry Bryant Advertising Agency, Chicago* 57

Dilley Manufacturing Co., The 60

Edmont Mfg. Co., *Mumm, Mulley & Nichols, Inc., Columbus* 37

Fine Organics, Inc., *Kermin-Thall Agency, New York* 48

Goggle Parts Co., *Carr Liggett Advertising, Inc., Cleveland* 52

Hadco Corporation 56
Hild Floor Machine Co., *Cruttenden & Eger, Chicago* 32
Hood Rubber Co., *Henry A. Loudon Advertising, Inc., Boston* 50
Hynson, Westcott & Dunning, Inc. ..... Back Cover
Hy-Test Safety Shoes, Div. International Shoe Co., *Westheimer & Block, St. Louis* 6

Industrial Gloves Co., *Kirkgasser-Drew, Chicago* 2
Industrial Products Co., *The Stewart-Jordan Co., Philadelphia* 54

Lehigh Safety Shoe Co., *Frederick-Clinton Co., Inc., New York* 1
Lightfoot Schultz Co., *Herald Advertising Agency, Inc., New York* 4
Littell Machine Co., F. J., *Vernon S. Weller, Chicago* 30
Lovig Co., C. L. 70

Martindale Electric Co., The, *Kenneth H. Kolpien, Cleveland* 4
Medical Supply Co., *Howard H. Monk and Associates, Rockford* 30
Metal Arts Company, Inc., *Hutchins Advertising Co., Rochester* 60
Morton Salt Co., *Needham, Louis and Brorby, Inc., Chicago* 44

Orthopedic Equipment Co., *Tri-State Advertising Co., Inc., Warsaw* ... 29

Pennsylvania Optical Co., *Werner E. Pfeiffer Co., Reading* 39
Pittsburgh Plate Glass Co., *Maxon, Inc., Detroit* 17

Quabaug Rubber Co. 13

Reece Wooden Sole Shoe Co. 28
Ruemelin Mfg. Co., *Paulson-Gerlach & Associates, Inc., Milwaukee* 59

Safety Box Toe Co., *The Church Green Co., Boston* 24, 25
Stonehouse Signs, Inc., *Walter DuBree Advertising Agency, Los Angeles* ..... Inside Back Cover

U. S. Safety Service Co., *Phillips, Reick, Fardon, Kansas City* 26, 69

Watchemoket Optical Co., Inc., *George T. Metcalf Co., Providence* ... 3
Wheeler Protective Apparel, Inc., *Armstrong Advertising Agency, Chicago* 61
Williams Jewelry & Mfg. Co., *Jerry Bryant Advertising, Chicago* 72

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 6634, SEC. 34.9 P. L. & R., NEW YORK, N. Y.

"SAFETY MAINTENANCE & PRODUCTION"
ALFRED M. BEST COMPANY, INC.
75 FULTON STREET
NEW YORK 38, N. Y.

Service Dept.

READERS FREE
INQUIRY CARD
for further data
on
ADVERTISED PRODUCTS,
NEW PRODUCTS,
FREE BULLETINS & CATALOGS

STONEHOUSE SIGNS For ACCIDENT PREVENTION

WHERE Hy-VOLT LIVES ...Watch Out!

He's the giant Electricity...his punch is power-packed. For while he serves virtually every industrial need, it is only with great care that workers should approach or touch him.

Safeguard your men and women against Electrical hazards by educating and warning them to beware of Hy-Volt's punch...with

STONEHOUSE SIGNS

Use them to warn against these dangers. There are many Stonehouse stock-worded "Electrical Hazards" signs, for Accident Prevention. Special wordings produced to specifications.

Send for our complete Catalog...in full color...free on request.

Stonehouse SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer
Denver 4, Colorado

"Signs Since 1863"

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

(For further details, use Key # E-42 on free Inquiry Card on page 77)

First aid for wounds

Mercurochrome®

(H. W. & D. BRAND OF MERBROMIN, DIBROMOXYMERCURIFLUORESCEIN SODIUM)

Prevent infection by the prompt use of 'Mercurochrome.'

No antiseptic has been proved to be more effective than 'Mercurochrome.'

Thirty-three years of extensive clinical and lay use has proved the value of this popular antiseptic.

® *Reg. U. S. Pat. Off.*

Described in New and Non-official Remedies (1950) by the Council on Pharmacy and Chemistry of the American Medical Association.

Thantis® LOZENGES

First aid for throat irritations

Throat irritations if neglected may result in serious illnesses.

'Thantis' Lozenges, the original anesthetic-antiseptic throat lozenge, are more effective than any imitation.

HYNSON, WESTCOTT & DUNNING, INC., BALTIMORE 1, MARYLAND

(For further details, use Key # E-43 on free Inquiry Card on page 77)